Version

2.5

CMDBuild®

» User Manual

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ENG

CMDBuild ® uses many great technologies from the open source community:
PostgreSQL, Apache, Tomcat, Eclipse, Ext JS, JasperReports, IReport, Enhydra Shark, TWE, OCS Inventory, Liferay, Alfresco, GeoServer, OpenLayers, Prefuse, Quartz, BiMserver.
We are thankful for the great contributions that led to the creation of these products.

CMDBuild ® is a project of Tecnoteca Srl. Tecnoteca is responsible of software design and development, it's the official maintainer and has registered the CMDBuild logo.

In the project also the Municipality of Udine was involved as the initial customer.

The official website is http://www.cmdbuild.org

Contents

Introduction

CMDBuild is an Open Source web application designed to model and manage assets and services controlled by the ICT Department, therefore it handles the related workflow operations, if necessary according to ITIL best practices.

The management of a Configuration Database (CMDB) means keeping up-to-date, and available to other processes, the database related to the components in use, their relations and their changes over time.

With CMDBuild, the system administrator can build and extend its own CMDB (hence the project name), modeling the CMDB according to the company needs; the administration module allows you to progressively add new classes of items, new attributes and new relations. You can also define filters, "views" and access permissions limited to rows and columns of every class.

CMDBuild provides complete support for ITIL best practices, which have become a "standard de facto" by now, a non-proprietary system for services management with process-oriented criteria.

Thanks to the integrated workflow engine, you can create new workflow processes with external visual editors, and import / execute them inside the CMDBuild application according to the configured automatisms.

A task manager integrated in the user interface of the Administration Module is also available. It allows to manage different operations (process starts, e-mail receiving and sending, connector executions) and data controls on the CMDB (synchronous and asynchronous events). Based on their findings, it sends notifications, starts workflows and executes scripts.

CMDBuild includes also JasperReports, an open source report engine that allows you to create reports; you can design (with an external editor), import and run custom reports inside CMDBuild.

Then it is possible to define some dashboards made up of charts which immediately show the situation of some indicators in the current system (KPI).

CMDBuild integrates Alfresco, the popular open source document management system. You can attach documents, pictures and other files.

Moreover, you can use GIS features to georeference and display assets on a geographical map (external map services) and / or an office plan (local GeoServer) and BIM features to view 3D models (IFC format).

The system includes also a SOAP and a REST webservice, to implement interoperability solutions with SOA.

CMDBuild includes two frameworks called Basic Connector and Advanced Connector, which are able - through the SOAP webservice - to sync the information recorded in the CMDB with external data sources, for example through automatic inventory systems (such as the open source OCS Inventory) or through virtualization or monitoring systems.

Through the REST webservice, CMDBuild GUI Framework allows to issue custom webpages on external portals able to interact with the CMDB.

A user interface for mobile tools (smartphones and tablets) is also available. It is implemented as multi-platform app (iOS, Android) and linked to the CMDB through the REST webservice.

CMDBuild modules

The CMDBuild application includes two main modules:

- the Administration Module for the initial definition and the next changes of the data model and the base configuration (relation classes and typologies, users and authorization, dashboards, upload report and workflows, options and parameters)
- the Management Module, used to manage cards and relations, add attachments, run workflow processes, visualize dashboards and execute reports

The Administration Module is available only to the users with the "administrator" role; the Management Module is used by all the users who view and edit data.

Available documentation

This manual is dedicated to the Management Module, through which the IT service operators will be able to update and view cards, run processes, execute reports, georeference items and perform other utility features.

You can find all the manuals on the official website (http://www.cmdbuild.org):

- system overview ("Overview Manual")
- system administration ("Administrator Manual")
- installation and system management ("Technical Manual")
- workflow configuration ("Workflow Manual")
- webservice details and configuration (“Webservice Manual”)
- connectors to sync data through external systems (“ConnectorsManual”)

Getting Started

CMDBuild philosophy

A CMDB is a storage and consultation system that handles the information assets of a company.

It is the official central repository and provides a consistent view of IT services.

It is a dynamic system that represents the current situation and knowledge of information technology assets and related entities: hardware (computers, peripherals, networking, telephone equipment), software (basic, environment, application software), documents (projects, contracts, manuals) and other resources, internal and external.

It is a monitoring system for the processes executed, described and managed through the workflow functions.

CMDBuild is a robust, customizable and extensible CMDB solution.

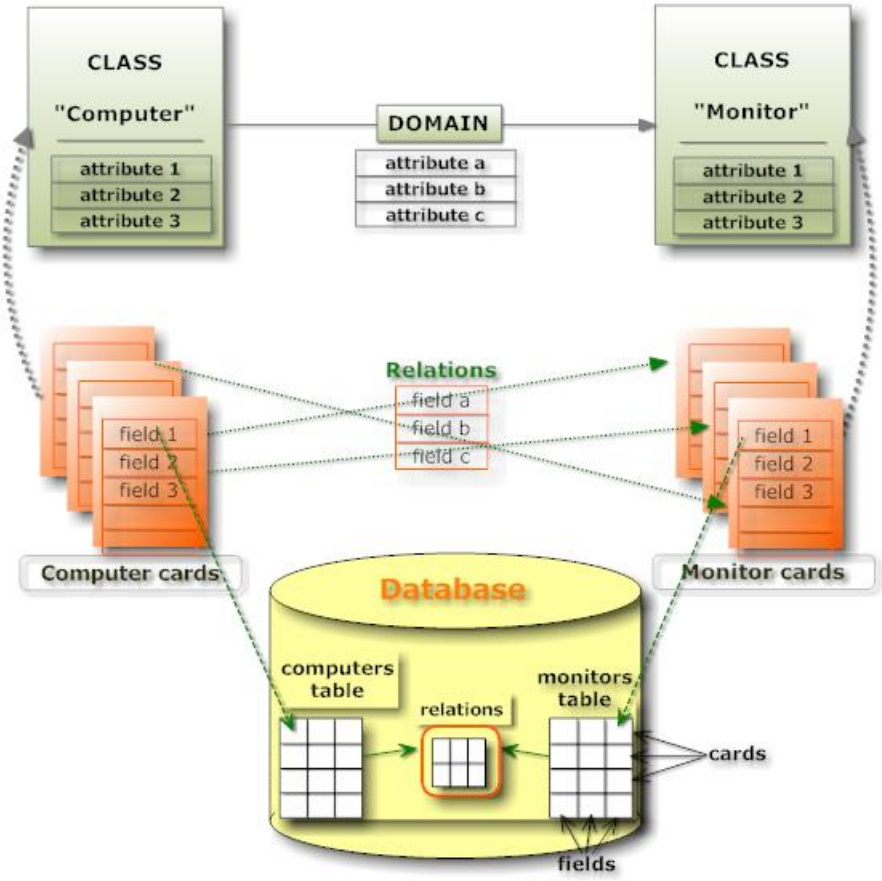
Providing an extensible solution means providing an open and dynamic system that can be easily designed, configured and extended by the system administrator in different phases in terms of types of objects to manage, attributes and relations.

Since there are not two organizations that operate exactly on the same set of objects (assets) and, for each object, on the same information, we decided to set, as the primary CMDBuild feature, the system flexibility, developing features to configure the whole system: data model, processes, reports, external systems connectors, etc.

To be more precise, the management features available in CMDBuild allow you to:

- display the data cards of a class or a view according to the available permissions (on the whole class or on subsets of rows and columns)
- carry out researches through the filter mechanisms available in the system, with the possibility of storing a search filter and reuse it later
- use the configured widgets to run specific card functions
- consult the relations among cards with a graphic tool or simply browsing the system
- insert or update data card, including the notes field with HTML editor
- create or edit relations among cards, including relations attributes
- upload card attachments
- georeference objects, maps or 2D plans through proper GIS functions
- georeference objects on 3D models through proper BIM functions
- view the list of pending and completed processes (workflow)
- refer to the dashboards defined in the system
- run predefined and custom reports (designed with IReport)
- change password
- import or export data in CSV format
- edit multiple cards at the same time
- enter the Administration Module (administrator role)

Here is a diagram that explains terms and concepts introduced above in relation to the configuration of the data model.



General Criteria

The use of the Management Module assumes that the system administrator has defined, using the Administration Module, an initial data model for the system.

It is not necessary for the initial model to describe all the properties managed by the organization, it is indeed important to adopt a policy to gradually develop the system through successive phases in terms of cards and relations between them.

We recommend you to start by managing a small but complete set of objects and relations and then extend the system once the knowledge and requirements have become clearer.

CMDBuild expects that operators use the Management Module to manage cards according to the rules defined by the system administrator with the Administration Module.

We recommend you to use CMDBuild:

- respecting procedures and permissions
- properly recording data cards: a database with missing information is not useful
- recording the new information, as soon as they are available, and updating the existing ones: an outdated system is not useful to anyone

How to use CMDBuild

The main purpose of CMDBuild is to:

- get updated information on each individual asset and relations with other assets or other elements of the system
- find out the state of each asset and of each relation in any previous time
- update the information stored in the system - cards and documents - either individually or with advanced functions for multiple changes
- assist the operator by defining processes and implementing wizards
- refer to the dashboards for the control of basic management parameters
- create useful reports for the analysis of daily operations or historical trends and statistics
- carry out automatic activities (notification e-mails, workflow launch, script implementation) that follow operations (such as e-mail receiving, workflow launch, check on synchronous and asynchronous events) configured through the Task Manager available in the Administration Module

The most widely used features, grouped in the "data cards" section, are :

- the consultation of the data cards of a class or a view, according to the available permissions (on the whole class or on subsets of rows and columns)
- the card search, specifying filters both on the data cards of the current class and on those of the relation classes, with the possibility of storing and reusing them
- card data overview, card relations and history
- perform specific functions (widget) configured for that card
- single or multiple card print
- graphical navigation of card relations
- card data update
- relations definition, including relations attributes
- card attachments upload
- card georeference (GIS)
- 3D model georeference

The "Processes tab" has a powerful workflow engine for:

- process overview
- editing of pending processes

The “Dashboard” section allows to:

- display the dashboard list configured in the system
- display the grids found in every dashboard, with the possibility of consulting the generated numbers

The "Report" tab also provides a powerful print engine for:

- custom designed reports (iReport)
- data export in CSV format or as a SQL query

The "Utilities" tab includes some wizard to handle operations such as:

- edit all class attributes
- import data from external CSV files
- export data to CSV
- password change

User Interface

The user interface uses Ajax technology.

This solution, part of the new Web 2.0 paradigm, provides a more intuitive application, improves interaction and gets faster responses from the system.

General design criteria

The user interface includes the following main elements:

- left side menu - "accordion" style - to access menus of Management and Administration modules
- data area in the top right corner, containing:
  - add new card button
  - sort options and column list (limited to the Management Module)
  - Page functions, basic and advanced filters, print and export grid data (only for the Management Module)
- data area in the bottom right corner, containing:
  - dedicated TAB to access specific card sections
  - buttons to manage the selected item in the grid
  - complete card - information and labels
  - buttons to confirm or cancel the current operation
  - links to related cards with the ability to insert, modify and delete (logical delete) data
  - buttons on the right side corresponding to the widgets configured for the card

On top of the page, in the header:

- CMDBuild logo (registered trademark Tecnoteca Ltd) on the left
- a central information panel with the current user and group; the panel shows the link to the Administration Module (only to system administrators) and Management Module
- button to logout (center panel)
- application name on the right

A footer, containing:

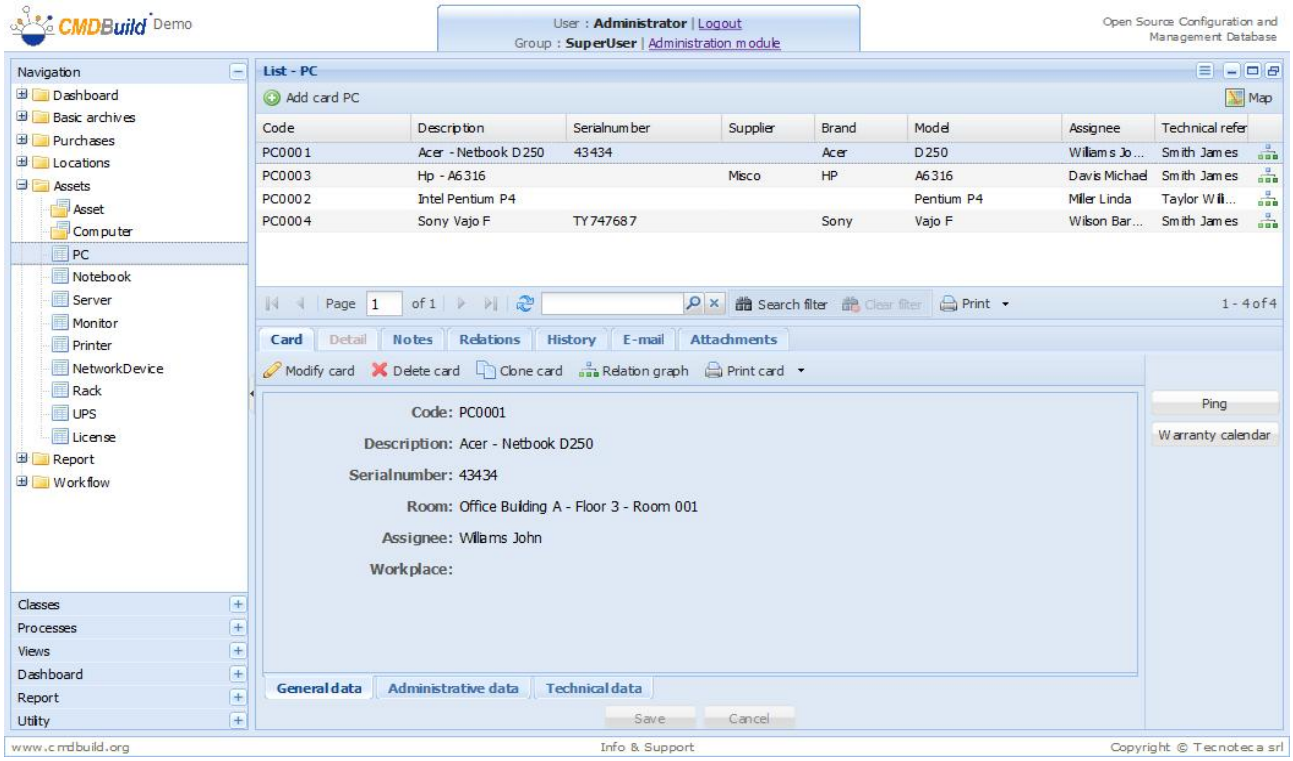
- Official website URL
- application credits
- the copyright notice

The details above are part of a standard setup but may differ in case of specific installations.

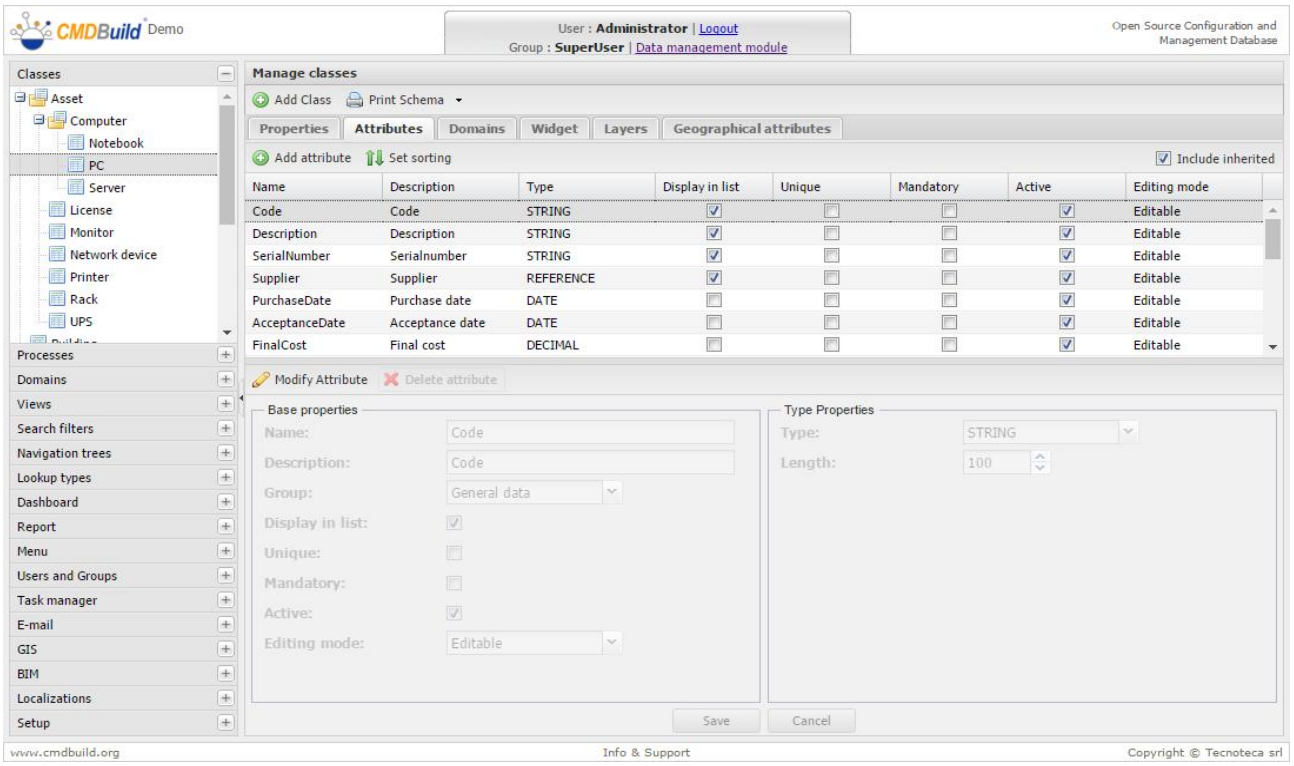
We present now the details of the Management Module since the Administration Module has a dedicated manual.

Here are two screenshots of the Management Module (blue shades) and Administration Module (shades of gray).

Management Module:



Administration Module:

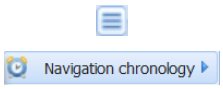


Control elements

Navigation chronology

Top right there is an icon to access the chronology of those actions performed in the system starting from the last login and to enter a card you have already visited:

- navigation chronology



This list shows the sequence of actions and the related type, function and detail. It allows even to return to the same position of the chosen row.

Resizing the main areas

The three main areas described above can be resized by clicking and dragging the layout borders.

On pages with a standard layout (divided into upper and lower area) you can (only in Management Module) act more quickly using buttons located on the top right to:

- expand to full-height card details area
- expand to full-height the data grid
- restore standard layout

“Accordion” menu

The menu on the left side is accordion-style and allows the user to open / close each item of the first level with a simple click.

Opening / closing a menu entry toggles the sub-elements of the selected entry.

Grid management

The standard data grid management (Management Module only) permits to:

- sort on a specific column with a mouse click
- see additional columns in the grid (among available ones)

In some cases you can call special features associated with a row of the grid simply by double clicking on the item (open relations, open document in the attachments tab, etc.).

There is also a button to print (PDF or CSV) data (rows and columns) that's currently displayed in the grid.

Finally, using the "Map" button it is possible to switch between textual and geographical modes.

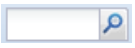
Quick action on grid elements

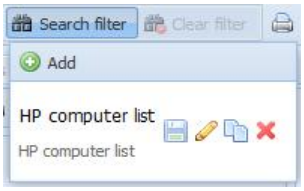
In some cases you can call special features associated with a row of the grid simply by double clicking on the item (open relations, open document in the attachments tab, etc.).

Selection filter

The selection filter, if defined, is available in two modes:

- quick search on all card attributes (not just those shown on the grid)
- advanced search filter, which provides advanced filtering (included the storing and the filter reuse) and will be described in individual use cases





Interactive help

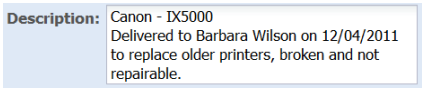
In some cards (in particular in the process management) there is a button in the lower right corner that displays a panel with some compilation tips.

Filling in forms for data editing

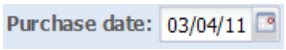
Data cards compilation requires different fields:

- numeric or string type with simple content

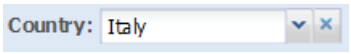
- multiline text



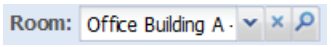
- date type, with interactive calendar



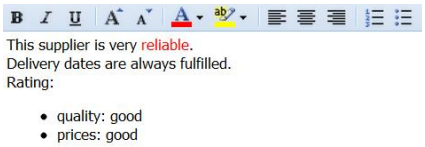
- simple list select



- advanced list select (with filtering options)



- formatted text (with editor)



you can then use the widgets (buttons) configured for the card.

Every insert operation includes confirmation and cancellation buttons

Menu

Both Administration and Management modules work on the same objects, the first to set configuration options (data structures), the second to manage the information stored in these objects (cards).

Both modules have an "Accordion" style menu and include the same entries, however for each entry there are different options in the two modules:

- lookup tables, definition of filters and views, users and groups, definition of menu, GIS configuration, configuration of base parameters in the Administration Module

- navigation menu (list of items available to the current user, ordered in folders in a coherent and organized way) views, dashboards and utilities in the Management Module

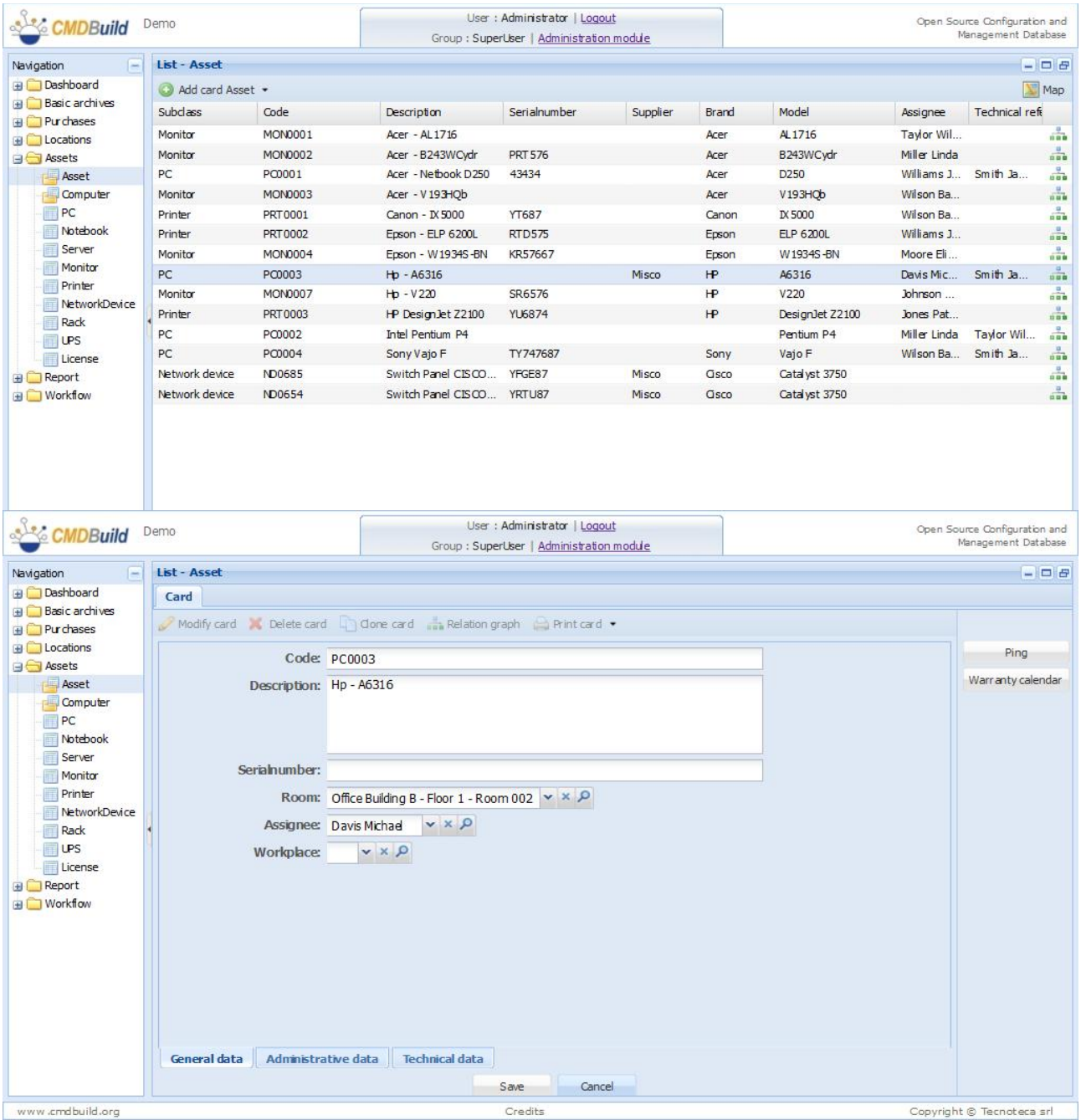
The Management Module provides an additional menu - the navigation menu - that includes a list of items available to the current user; it's possible to define a custom navigation menu using the Administration Module.

Simplified user interface

Through proper configuration parameters set in the Administration Module (Groups Management – Configuration User Interface), you can define a simplified interface for those users' Groups that demand it.

In particular, you can:

- hide one by one the headings of the accordion Menu placed in the left side of the page
- hide one by one all TABs of the cards and of the processes
- hide the accordion Menu itself when opening the page
- set an alternative display mode of the cards / processes list and of the insertion or update form of a card / process



Accessing the application

The Management Module is used by IT service operators and can be used to view and update the cards, run processes, execute reports and perform other utility operations.

Obviously, the above activities are available only if the system has been correctly configured using the Administration Module.

PC Requirements

CMDBuild is a web-based application, so both modules are available using a standard web browser.

The system user has to arrange on his/her processor only an updated web browser (Firefox up to version 43, Chrome up to version 48, Microsoft Explorer 8 or more recent up to version 10).

The web architecture ensures complete usability to any IT organization that operates in multiple locations (ie collaborative workflow); any entrusted client can connect and interact with the system using a standard web browser.

Authentication

You must login to use the application.

The login form requires a username, a password and eventually a language selection (if the application has been configured to handle multiple languages)

Once the user has logged in, the system starts with the Management Module and only the users that have the required role can switch to Administration Module by clicking on the link on top of the page (visible by clicking on the information panel located in the center)

Relations graph

Since this is a feature available in many situations, we describe now the details of the relation graph.

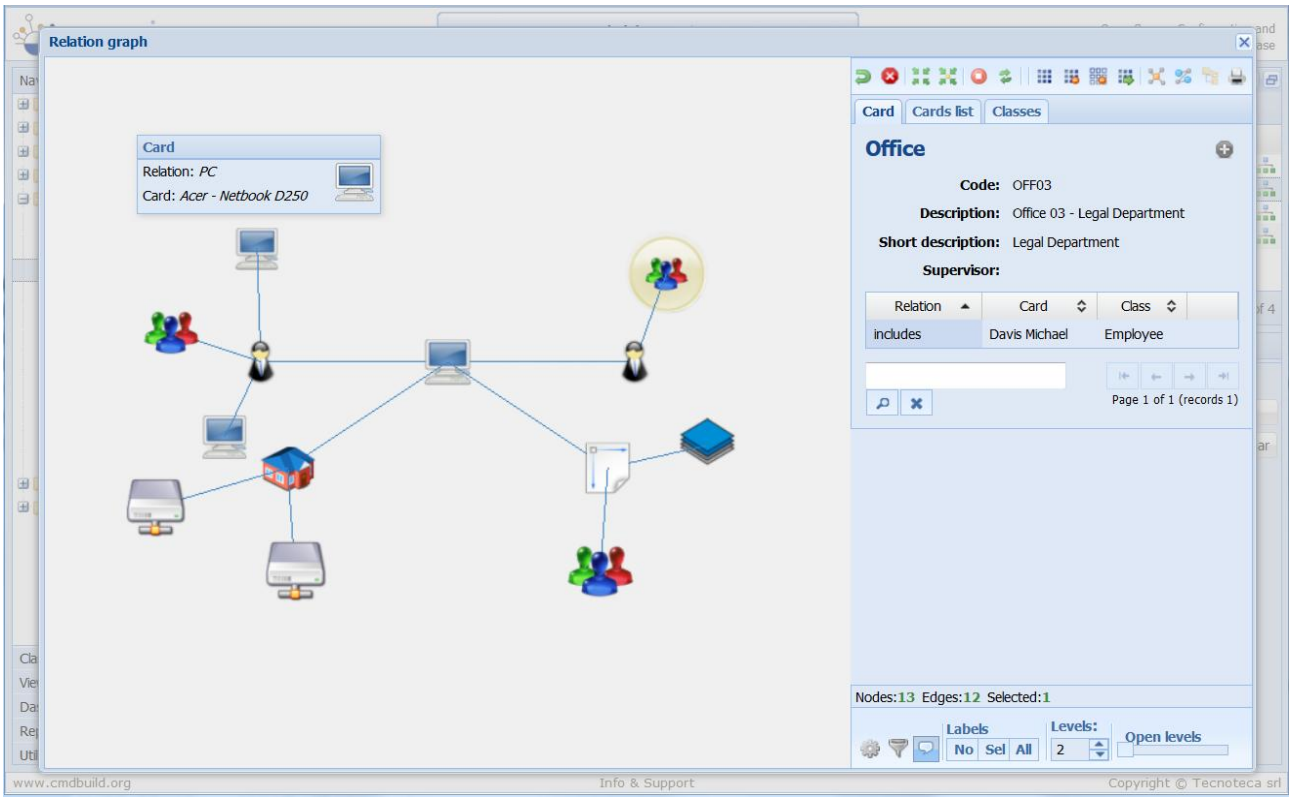
The purpose of the function is to:

- supply a 3D visual and interactive representation of the graph of relations stored in CMDBuild for the displayed node(s)
- allow interactive analysis through filters on cards and relations, graph explosions, application of pre-defined filters (navigation trees), application of other pre-defined functions

By designing the new displayer, we were looking for a solution that could grant an optimal result when viewing graphs that include (even high) number of nodes and relations. At the end we opted for the 3D choice, which offers one more spatial dimension to work on.

The user interface is divided into a graphical area on the left and a text area on the right, which are synchronized.

Furthermore, there are two toolbars, one on the top right and one at the bottom right.



Visual area

The visual representation of the graph includes:

- nodes, corresponding to the card "root" (to request the graph opening) and to the correlated cards. All of them are represented with a defaul icon or with icons that are previously uploaded into the system according to their class
- archi, corresponding to the relations among the nodes

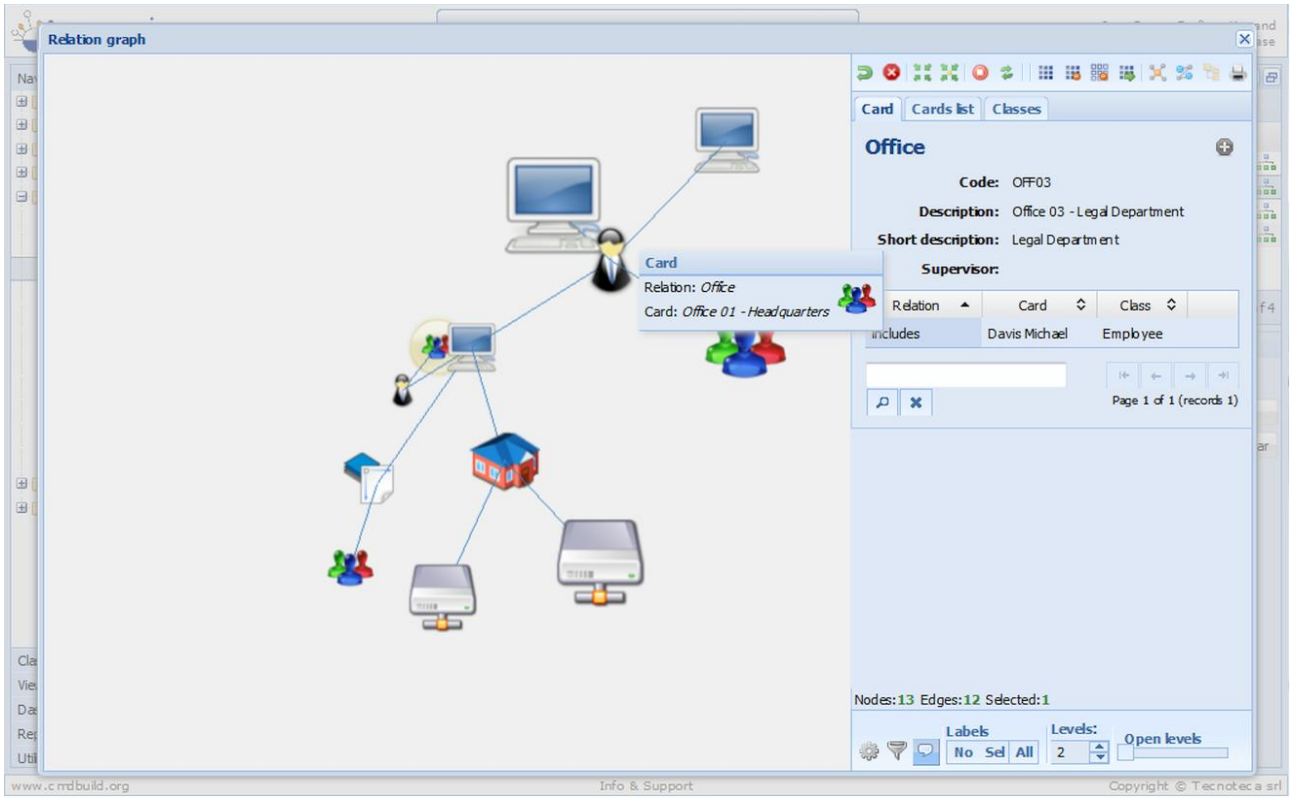
For each node and transition there is a tooltip with the main information related to the item.

The selected nodes are highlighted in yellow.

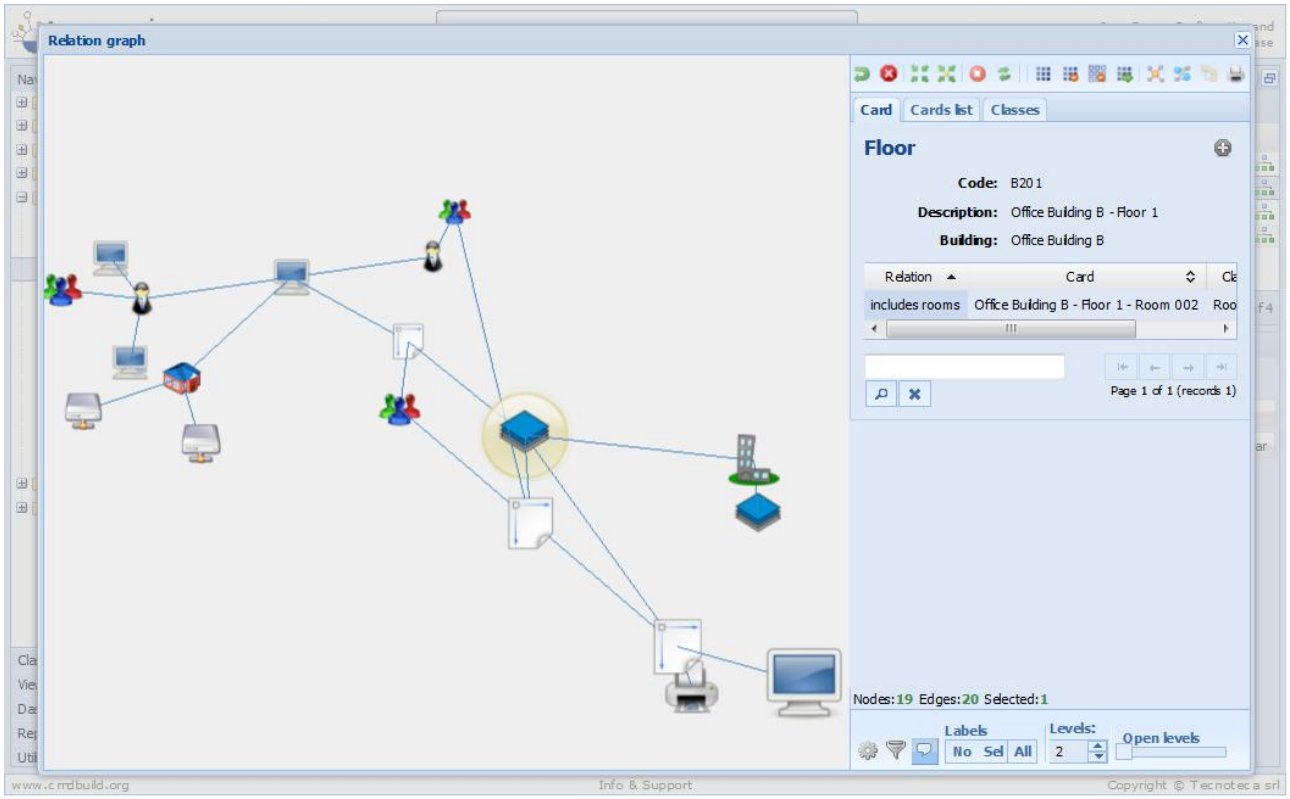
Available features in the visual area:

- selection of a node (click the right mouse button), with contextual presentation of the cards and of the relations in the text area on the right
- selection of adding nodes (click the left mouse button and hold CTRL)
- "explosion" of a node (double click), and opening of children nodes for the number of levels set in the toolbar at the bottom right
- “explosion” of the whole graph, and opening of all children nodes for the number of levels set through the slider of the toolbar at the bottom right
- zoom in the graph (mouse wheel), in order to explore some areas
- moving the whole graph (right button of the mouse)
- 3D rotation of the graph (click the right button and move the mouse on the page area)

In the following screenshot you can see the result of the 3D rotation on the graph viewed on the previous page.



In the following screenshot you can see that, after double-clicking on a node, its relations are opened.

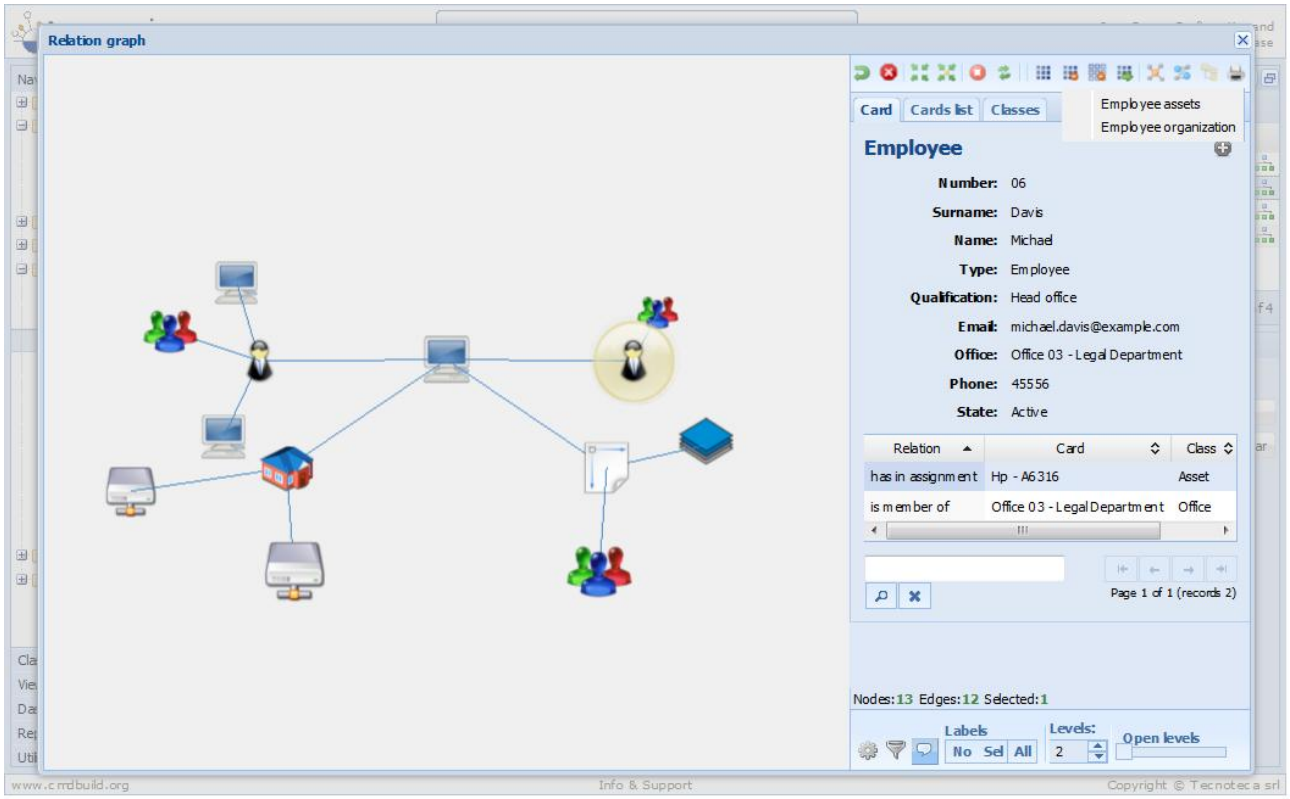


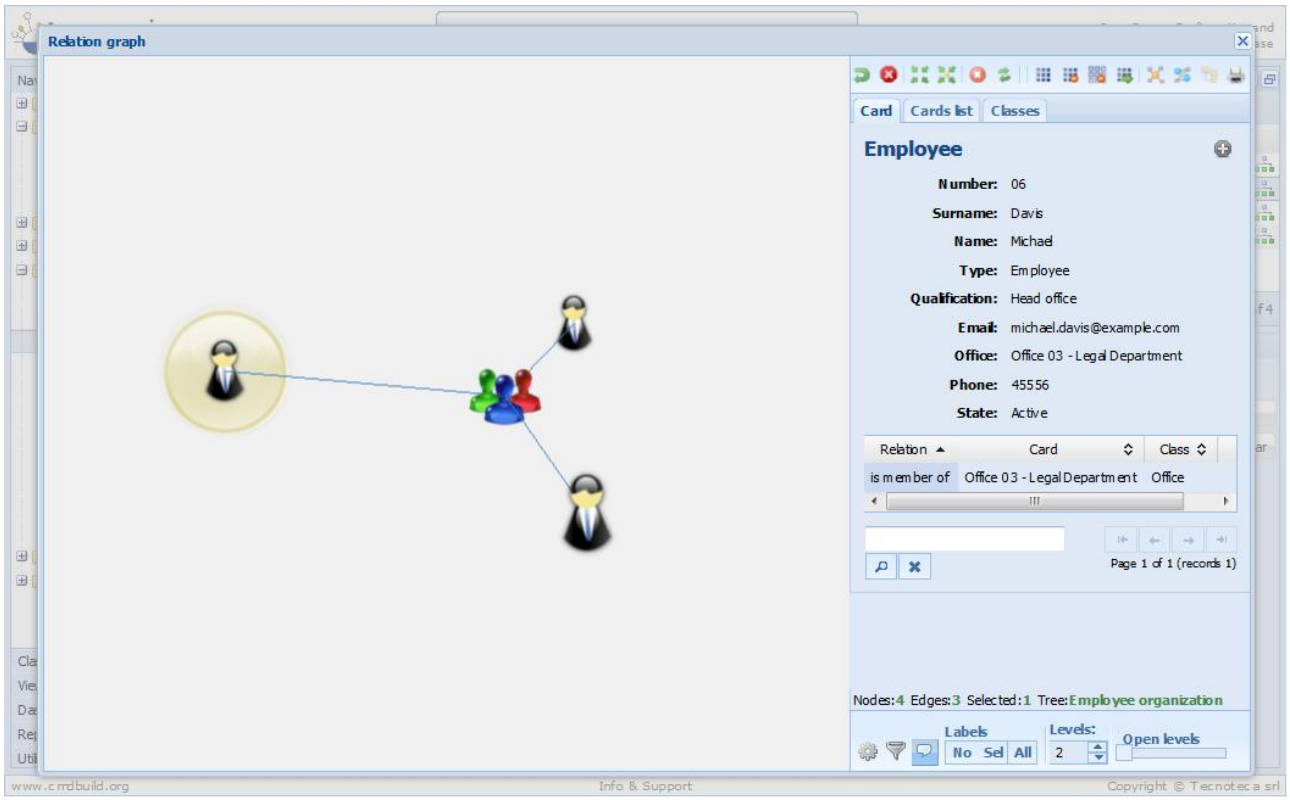
Toolbar in the top right

The toolbar available in the top right includes the following tools:

- “Undo”: it cancels the last operation
- “Apply the current layout”: it sets the layout of the first opening page
- “Stop the current operation”: it stops the current operation
- “Center the image”: it centers all nodes
- “Center the layout on selection”: it centers the graph onto the current element
- “Select all nodes”: it selects all nodes
- “Delete selected nodes”: it deletes the selected nodes
- “Delete unselected nodes”: it deletes the non-selected nodes
- “Oped selected nodes”: it opens the relations of all selected nodes for the number of levels set in the toolbar at the bottom right
- “Reopen the graph from this node”: it re-opens the graph from the selected node
- “Select the subgraph that contains the selected elements”: it selects the minimum sub-graph including the selected nodes
- “Choose navigation tree”: it applies one of the pre-defined navigation graphs
- “Print the 3D image”: it prints the image of the 3D-graph and the information of the selected node and its relations

In the two following screenshots you can see the result when applying a navigation tree to a graph.




Relation graph
Card
Cards list
Classes
Employee
Number: 06
Surname: Davis
Name: Michael
Type: Employee
Qualification: Head office
Email: michael.davis@example.com
Office: Office 03 - Legal Department
Phone: 45556
State: Active
Relation
Card
Class
is member of
Office 03 - Legal Department
Office
Page 1 of 1 (records 1)
Nodes:4 Edges:3 Selected:1 Tree:Employee organization
Labels
No Sel All
Levels:
2
Open levels
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Info & Support
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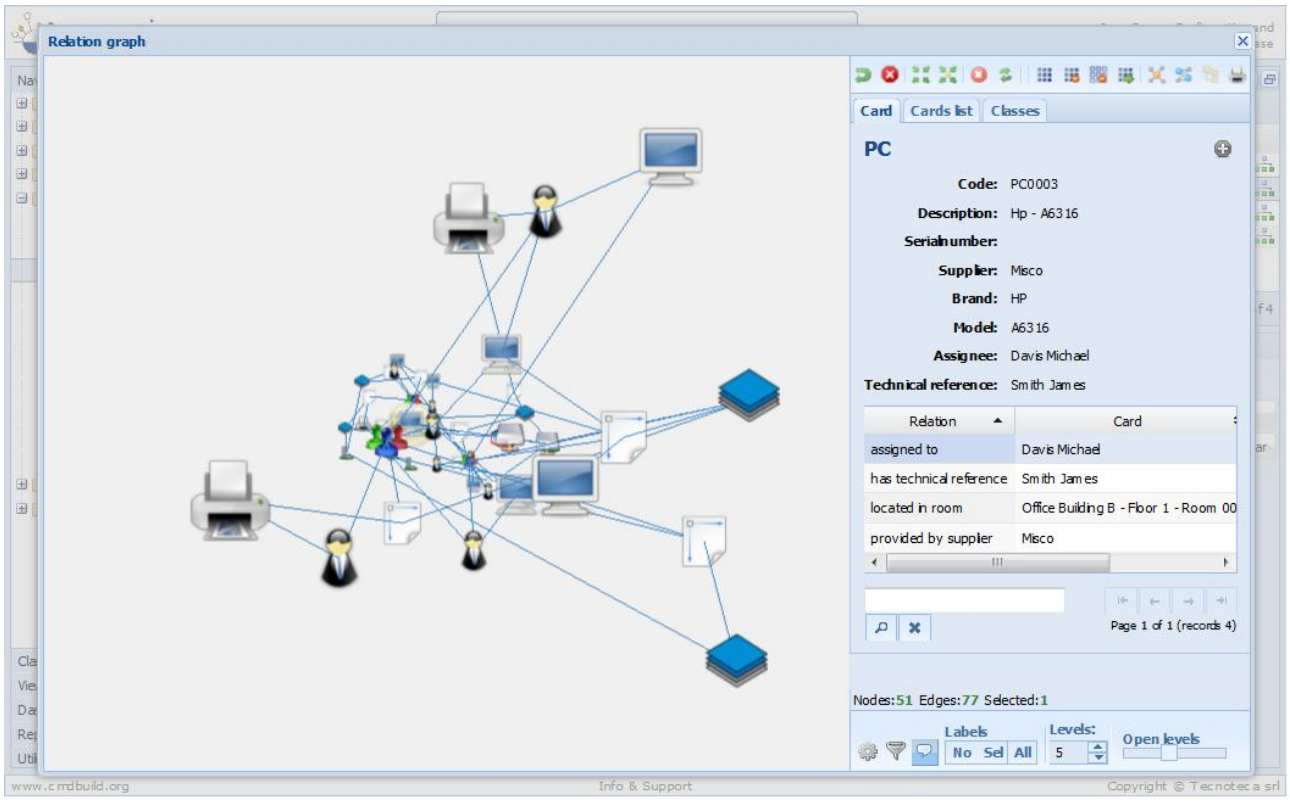
Text area

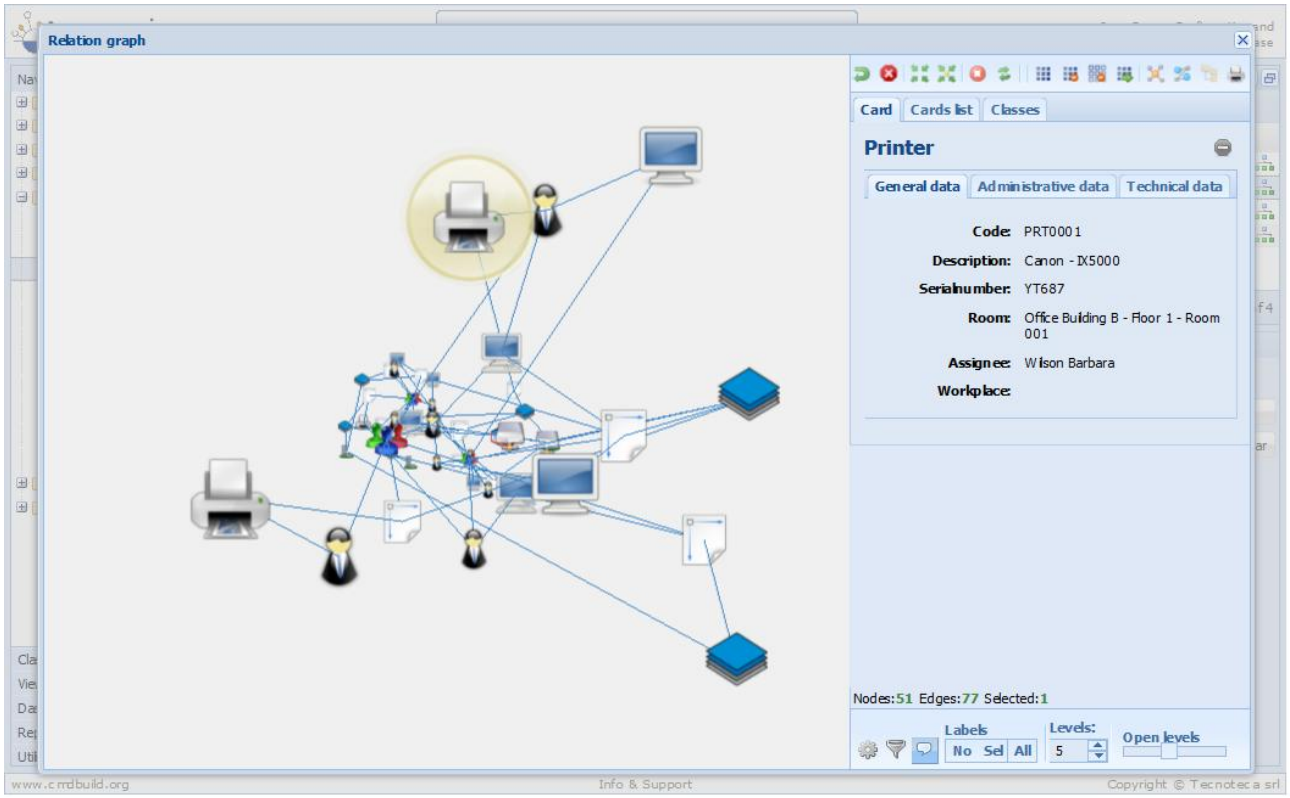
In the text area you can see:

- the card with the main attributes (attributes "Base display", defined in the Administration Module) and list of relations defined for that card
- the card with all attributes, if necessary divided on various pages
- the list of cards corresponding the nodes displayed on the graph
- the list of classes owning the nodes displayed on the graph

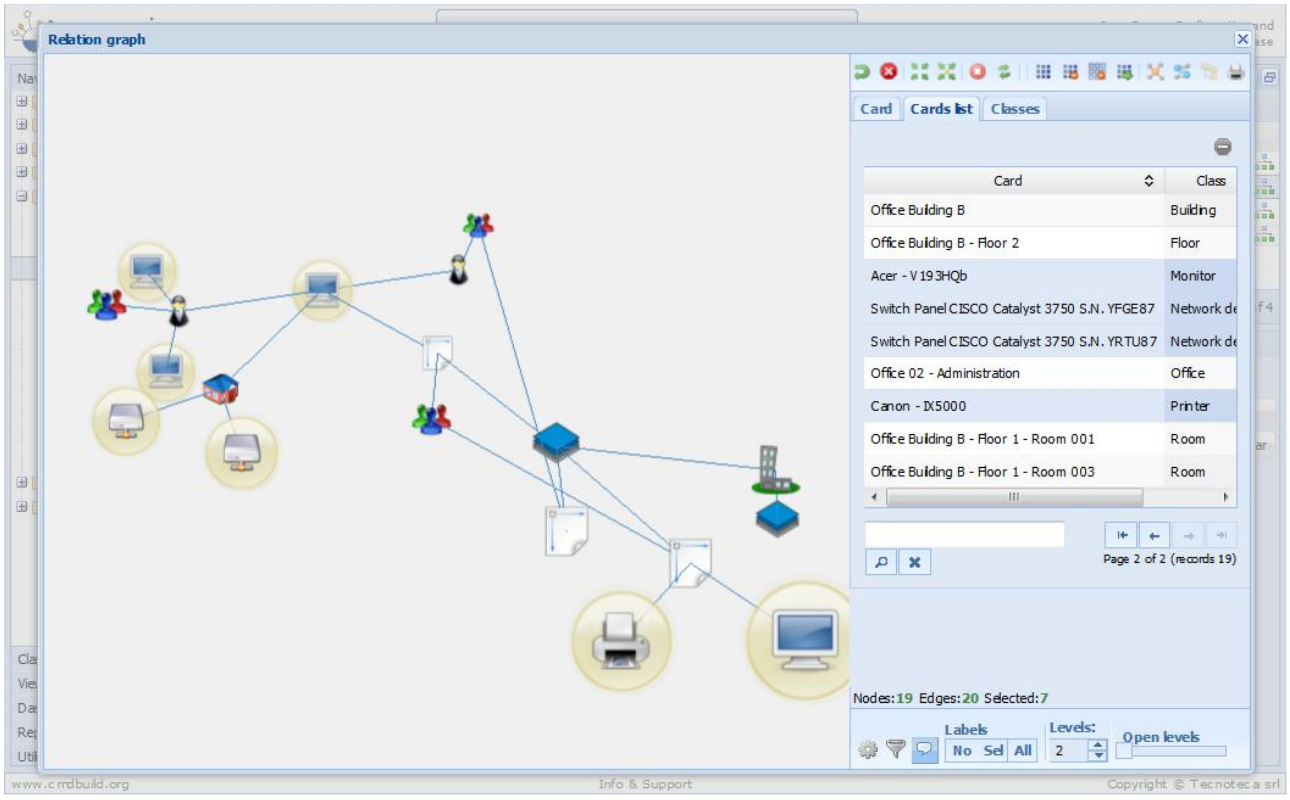
In the following screenshots you can view those data related to the node selected on the graph in the TAB Card, only with the main attributes and relations (first image) and with the complete card attributes.

Note the opening of the relations with five levels (through the slider of the toolbar at the bottom).

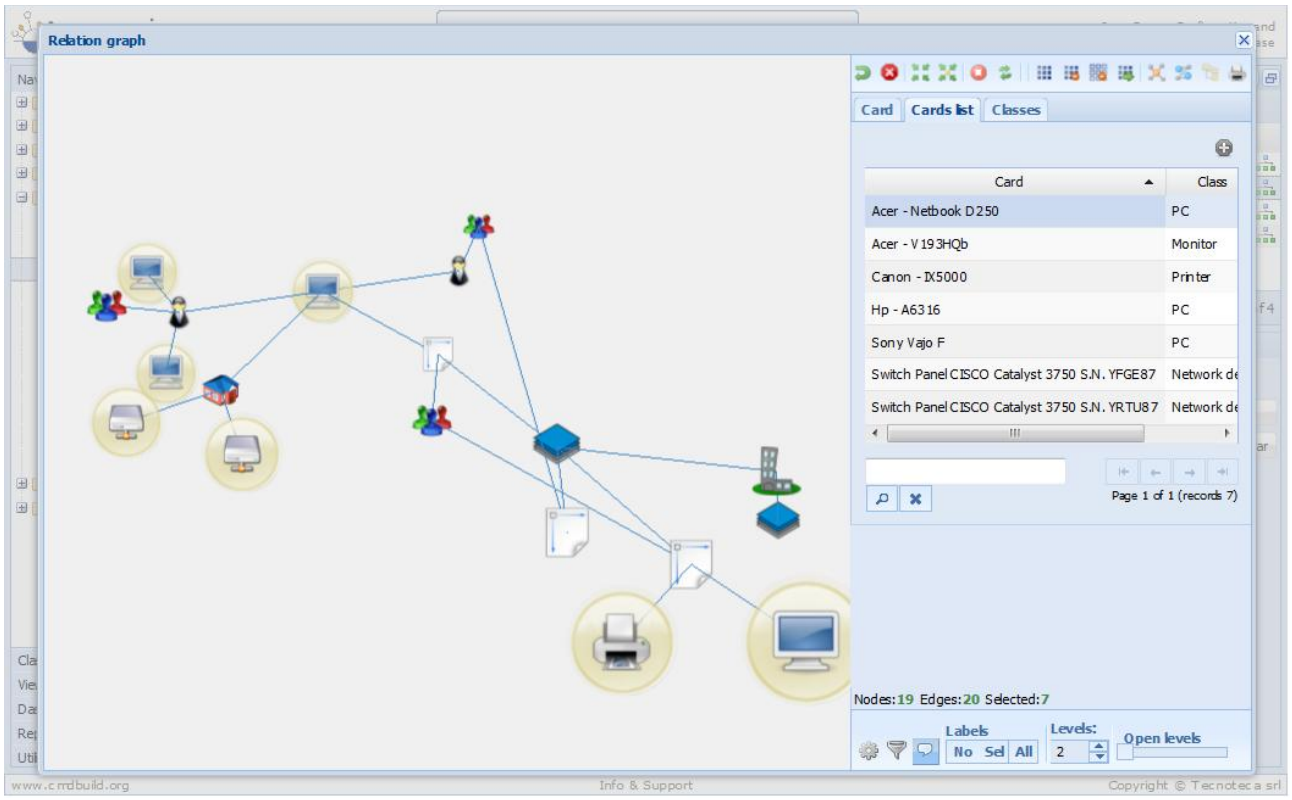




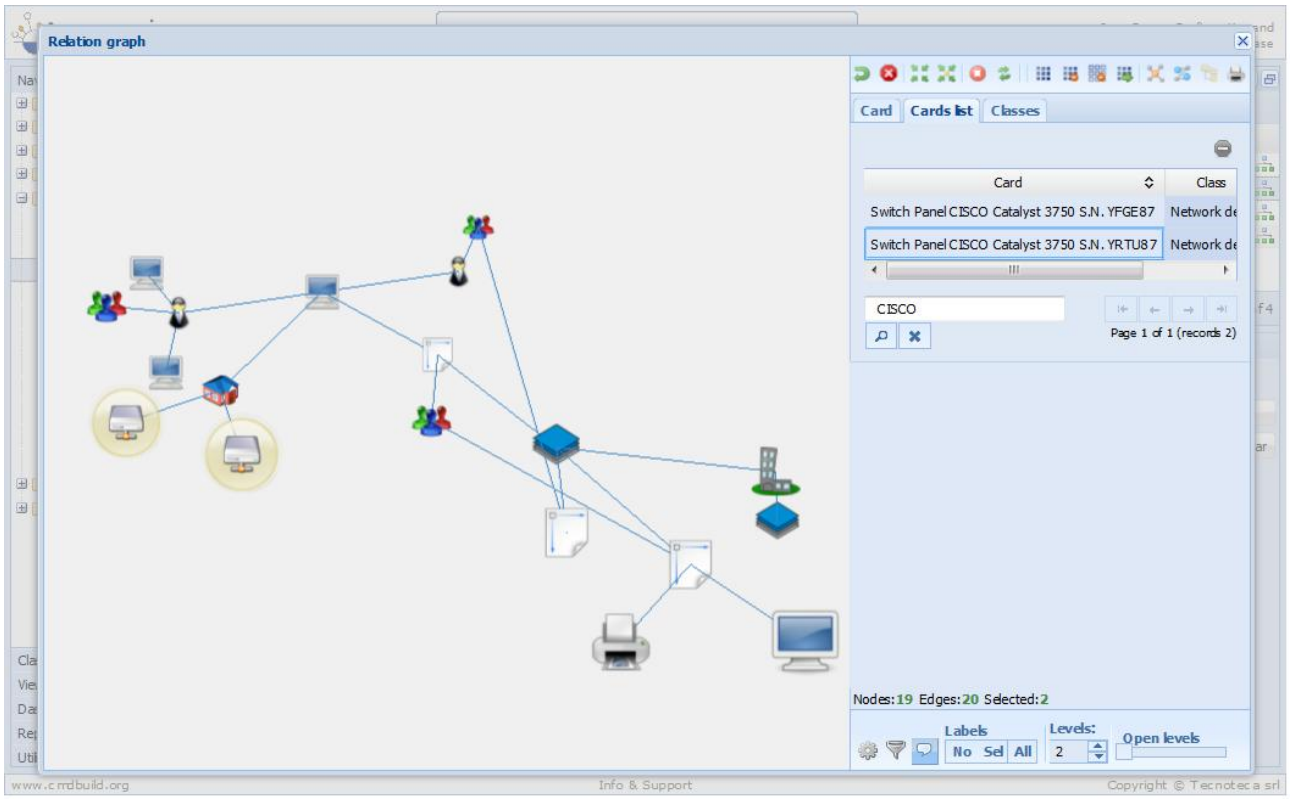
In the three following screenshots there are the nodes related to the cards selected in the TAB Cards list.



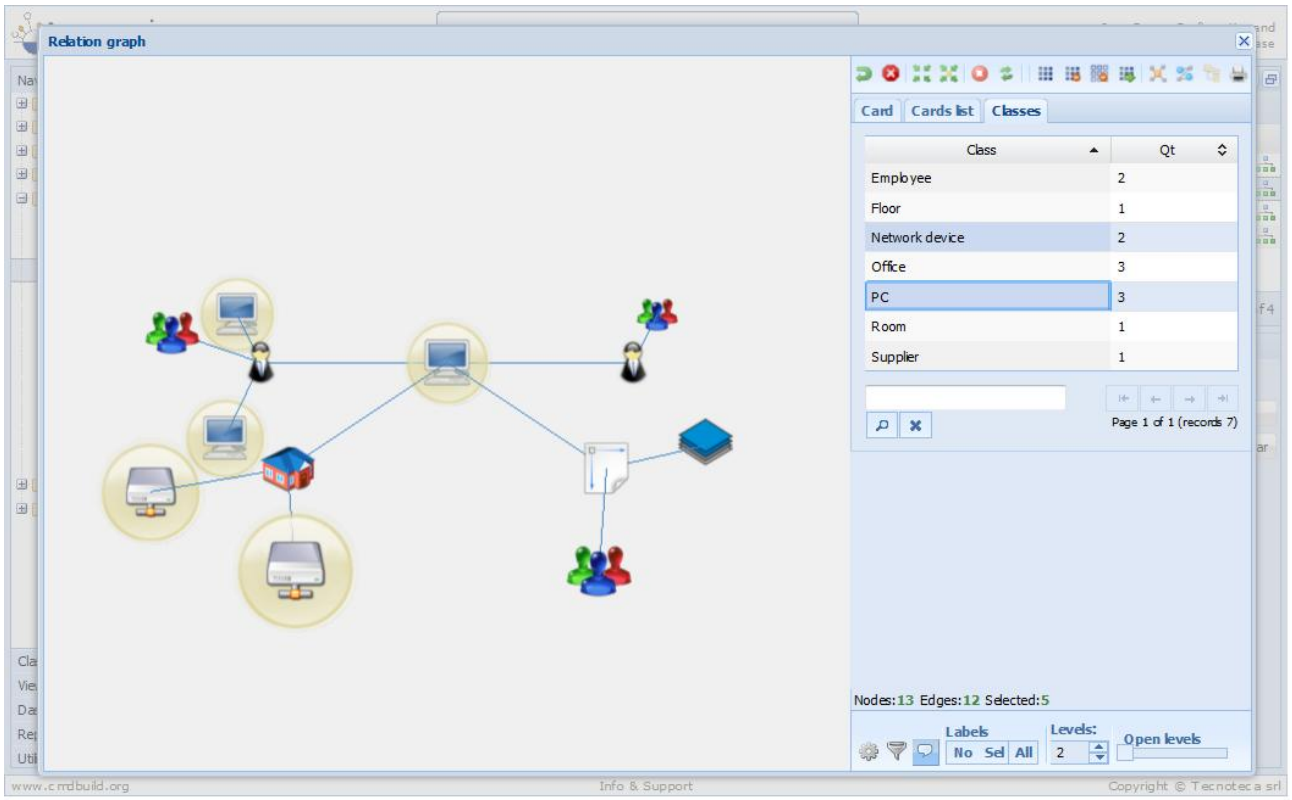
Through the proper icon (character “minus”), you can view only the selected data cards in the list (in the example, 7 elements out of 19):



Through the field for the text search, you can even reduce the selected cards:



In the following screenshot there are all nodes belonging to the classes selected in the TAB Classes .



Below, under the text area, there are reiterative data above the number of nodes and the displayed relations.

Toolbar at the bottom right

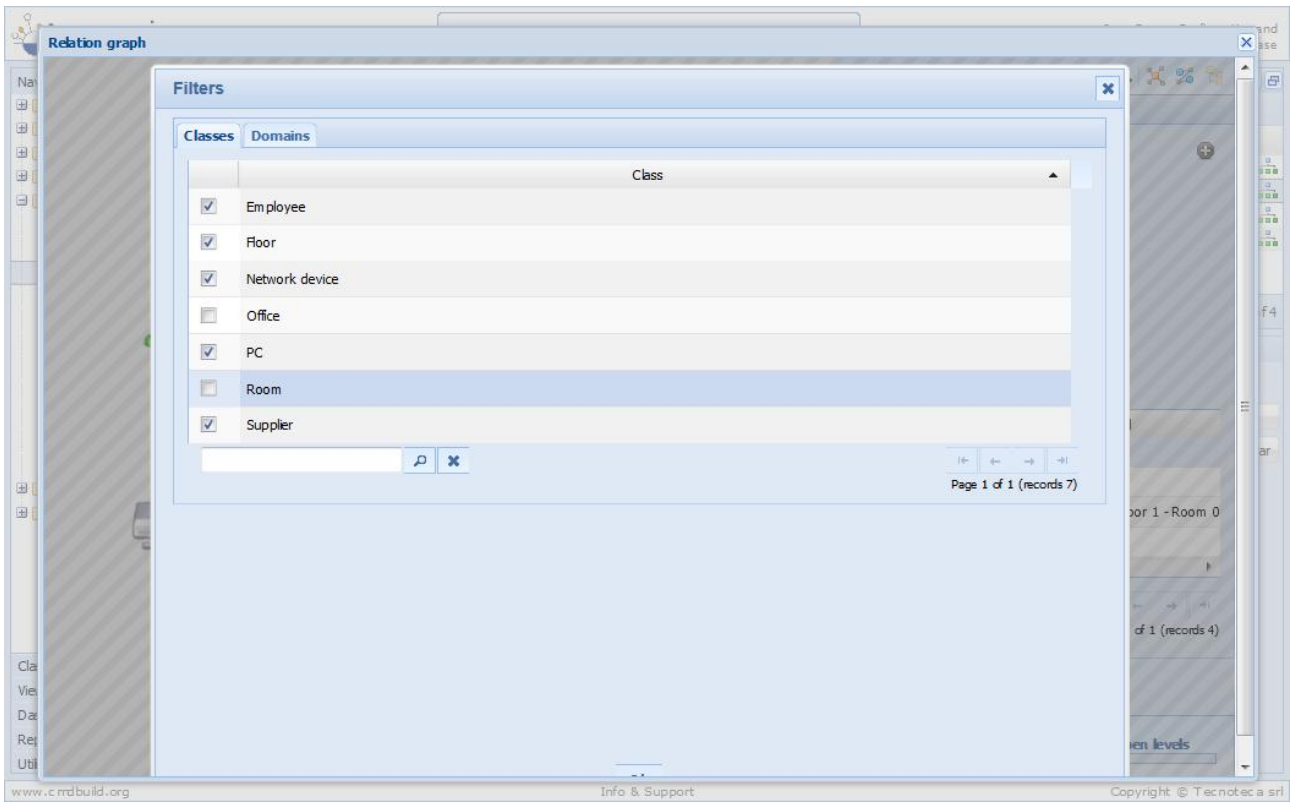
The toolbar available at the bottom right includes the following tools:

- “Open the properties panel”: access to the configuration page
- “Open the filter panel”: access to the page of the filter setting
- “Enable / disable” tooltips on graph”: enable / disable tooltips on nodes and relations

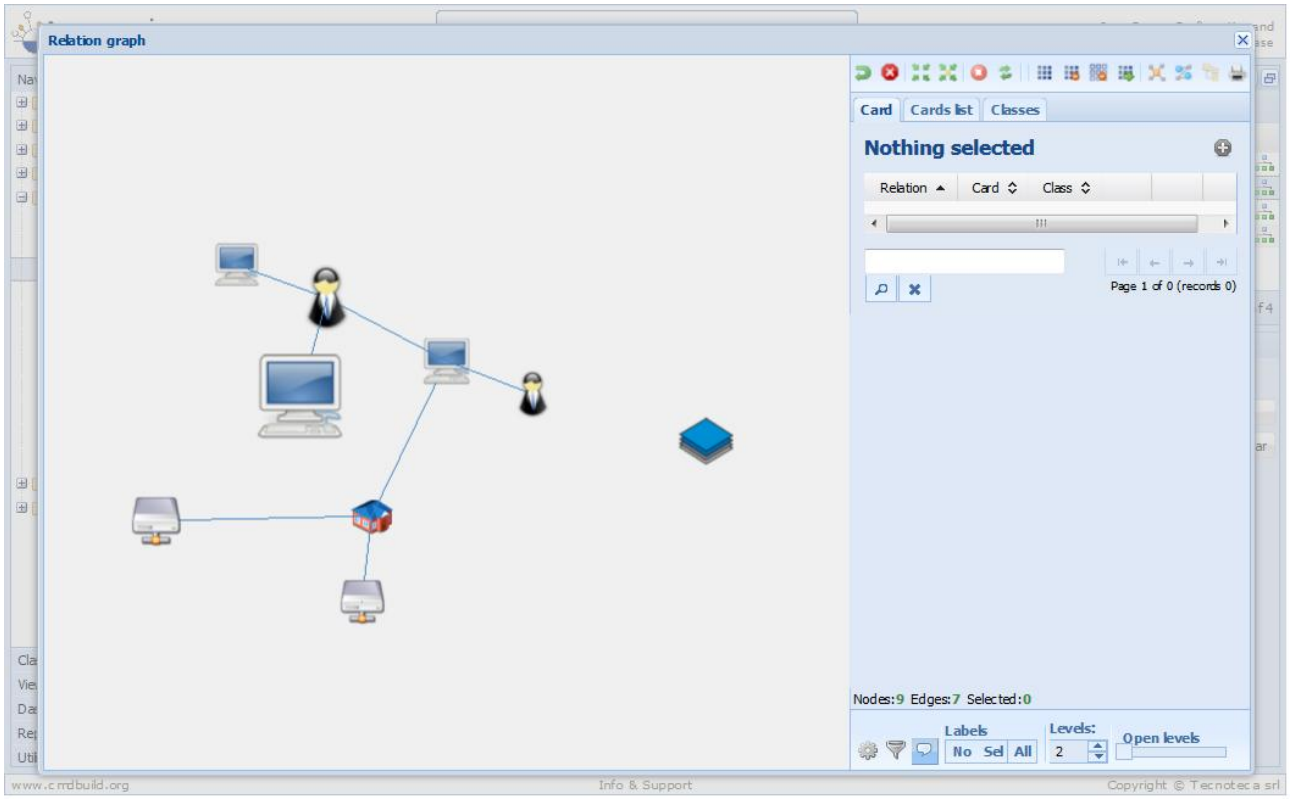
- “Levels”: number of relation levels to open if required
- “Slider levels”: another way to select the number of levels
- “Labels”: to show on no nodes, only on selected nodes or on all nodes

Through the filter functions, you can select / deselect one or more classes and one or more domains and view the related results on the graph.

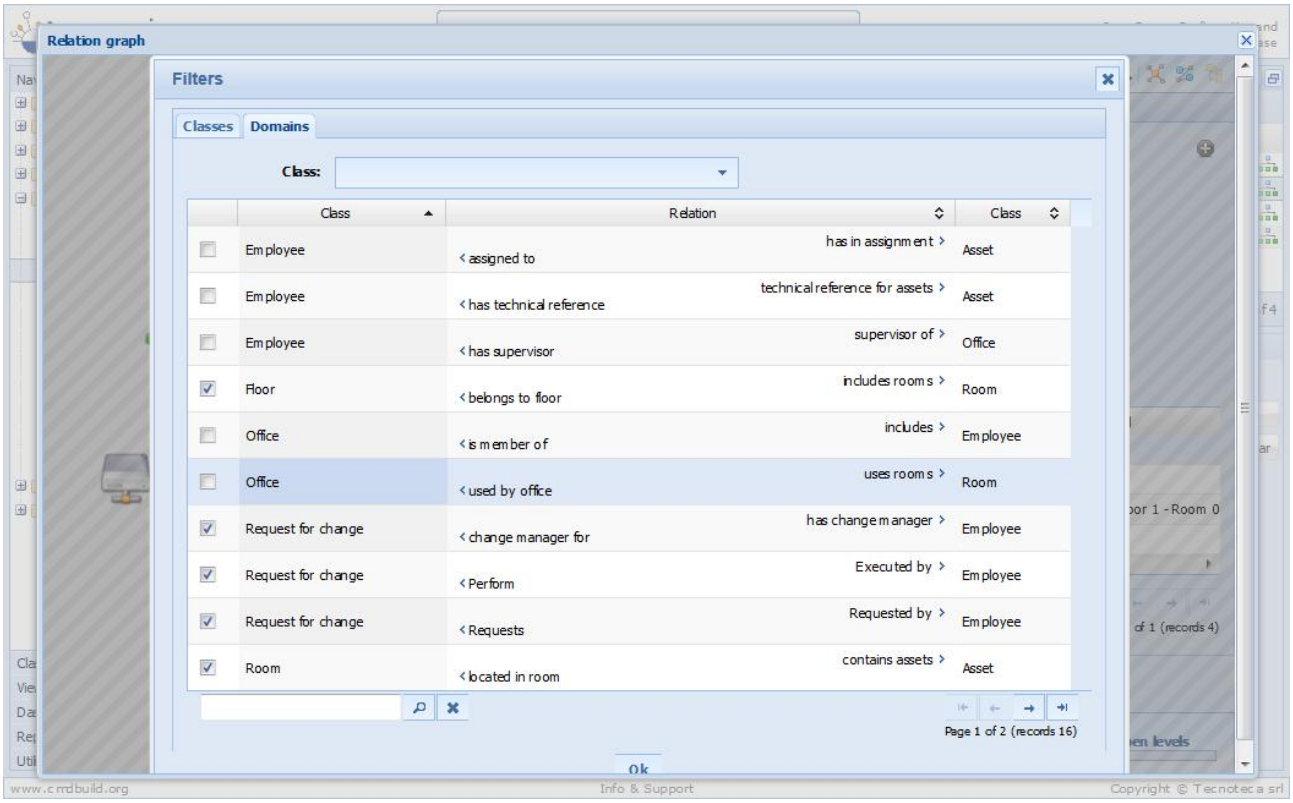
Selection of classes:



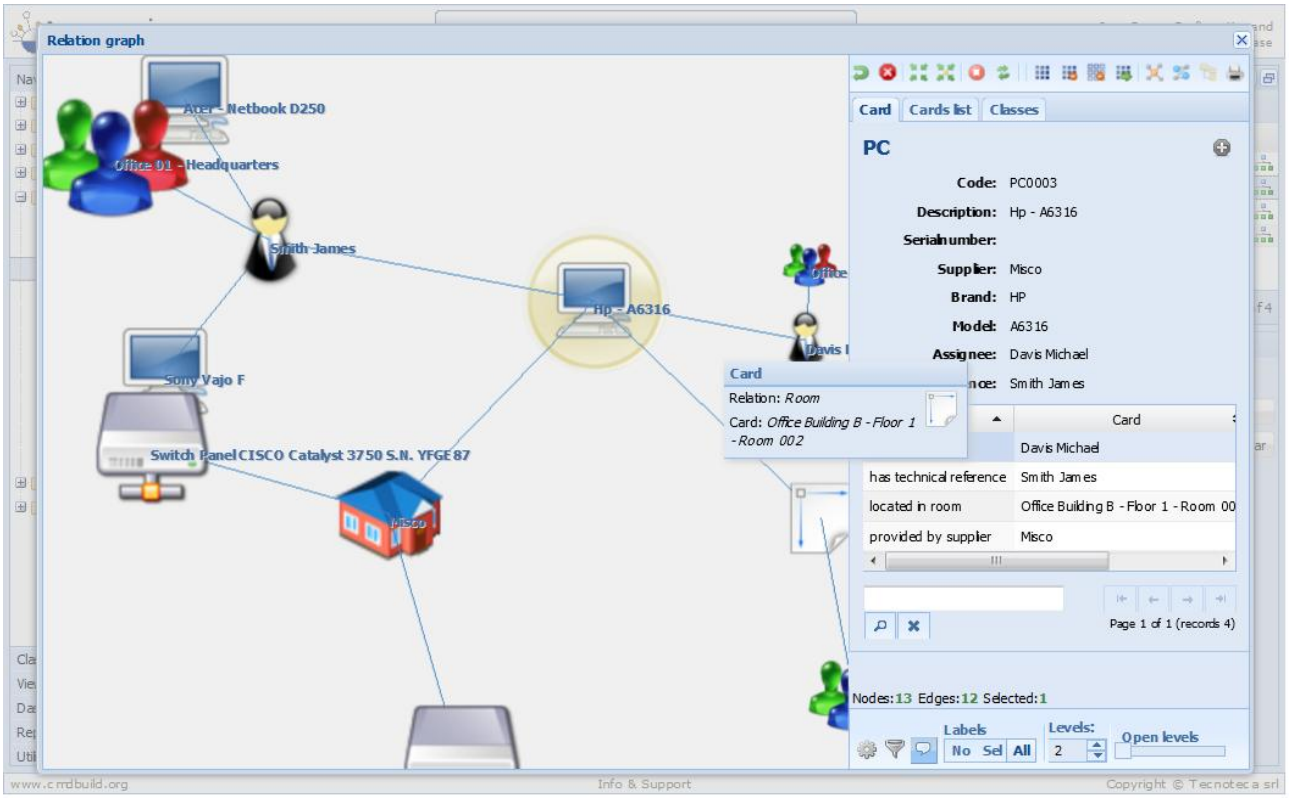
Results on the graph:



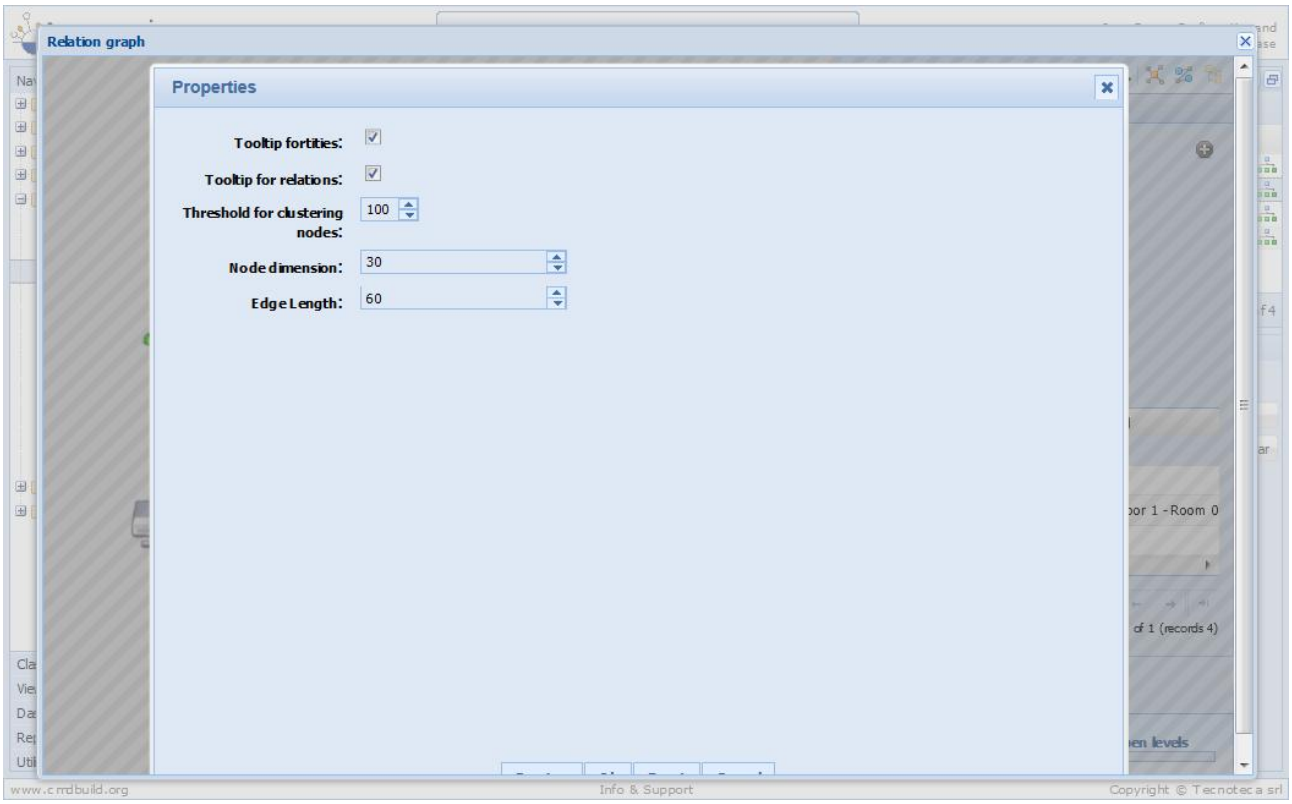
Filter on domains:



Here's the result after the application of labels on all graph nodes.



The following screenshot shows the Setup panel (the settings are still valid during the current session, but they can be made persistent by the Administration Module).

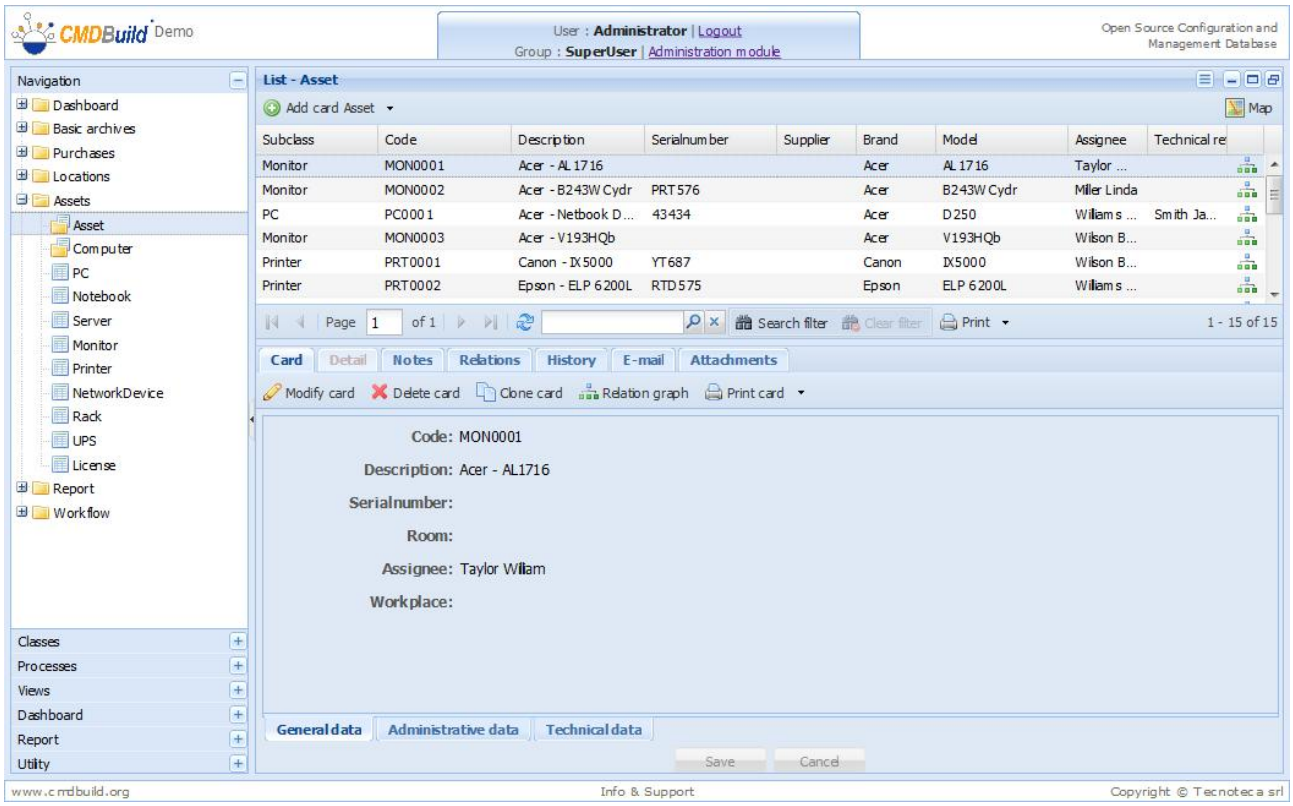


Cards

Using the Management Module it's possible to access the information stored in the system, perform searches, update cards, create relations, see card history.

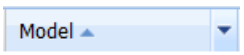
Card List

For all the entries in "Cards" menu (or for classes available in the navigation menu) the Management Module offers, on the top right, the list ("grid") of cards of the selected class. The details of the single highlighted card are shown on the bottom right corner.



Cardlist management allows to:

- sort cards by clicking on column header (the first click will sort ascending, the second descending)

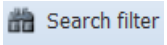


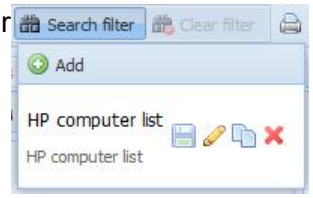
- add columns to the grid (the default columns are defined in the Administration Module). The list of available columns-attributes is shown by clicking on the column arrow (screenshot)

- use the page controls to move one page forward or backward, move to the first / last page, move to a specific page number

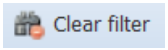
- reload grid data (refresh)

- access the "advanced" search system

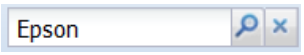




- define a new search filter, selecting attribute values for the card or for the related cards (see next paragraph)
- store the new search filter
- edit an existing filter
- clone an existing filter
- delete an existing filter
- delete a search filter



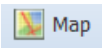
- perform a quick card search (seach on all class attributes, included those that are not displayed)



- print (PDF or CSV) data (rows and columns) currently displayed in the grid

- change the page layout by clicking and dragging the layout borders

- switch to map view to display cards position on a map / plan



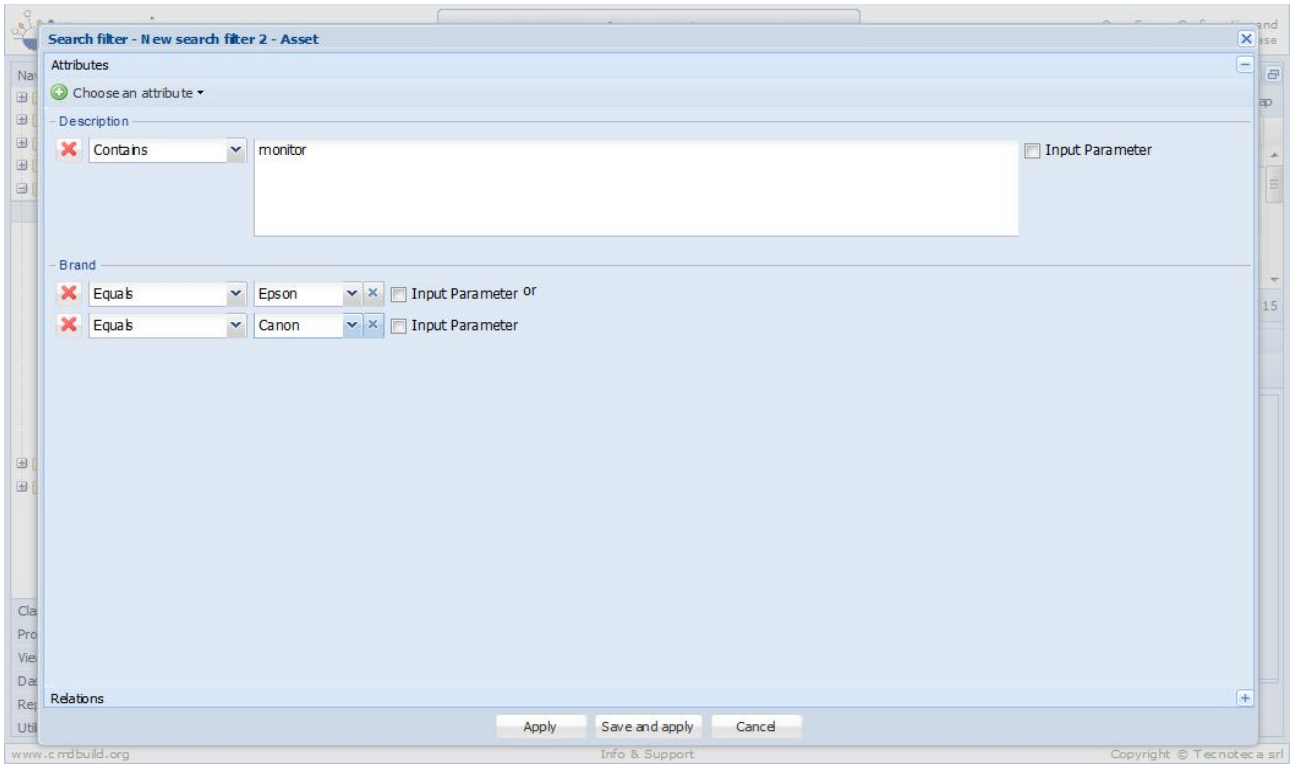
Definition of a new advanced search filter

A filter lets you search for cards using multiple search criteria:

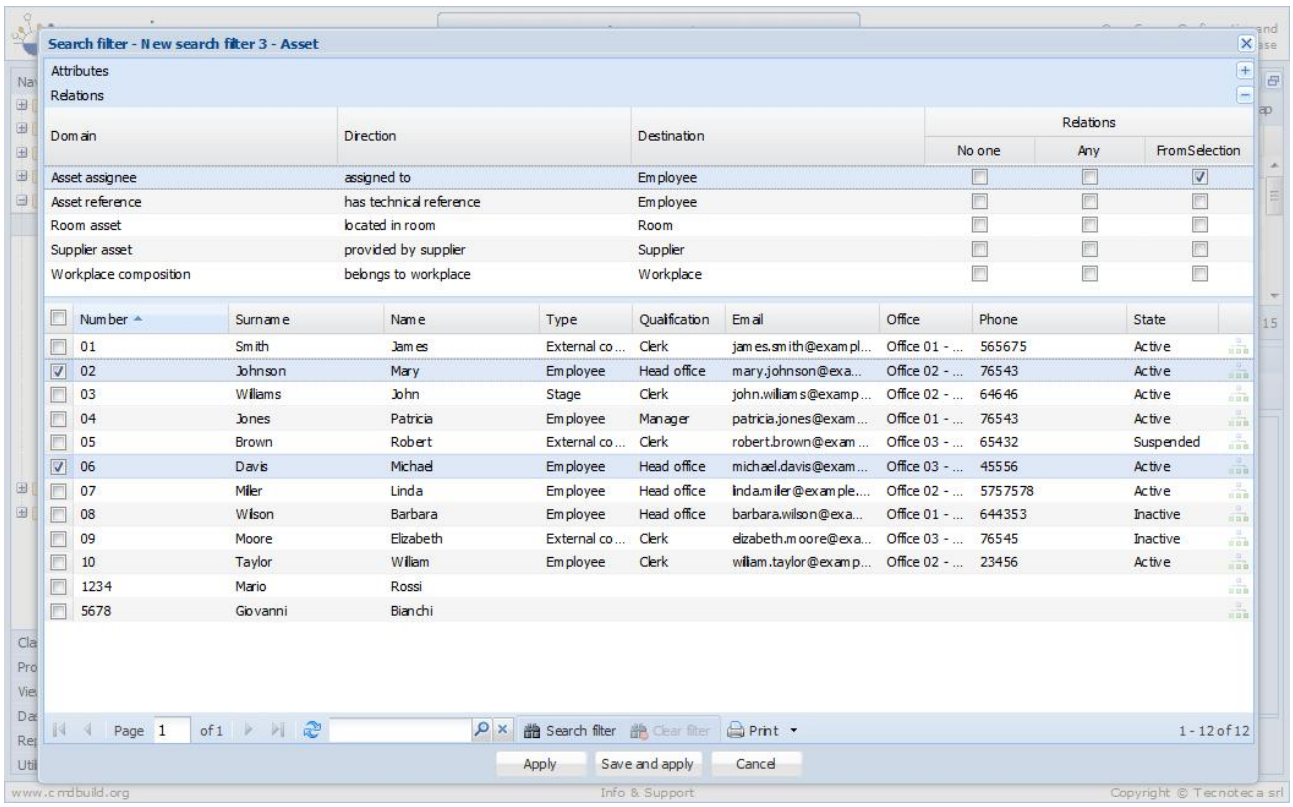
- search on all the attributes of the current class (the conditions must be simultaneously valid, that is "AND") with different operators and also by applying more conditions on the same attribute (in this case it will be considered as "OR")
- search on all the attributes of the classes related to the current card, either by selecting individual rows in the TAB "List" or by applying filters on the attributes of the related class
- search on all the attachments (text-based attachments)

In the next example we extract computers having "Epson" or "Canon" brand and containing the string "Monitor" in their description.

The search can be saved as filter and then reused by the same or other users who shared that filter with the administrator.

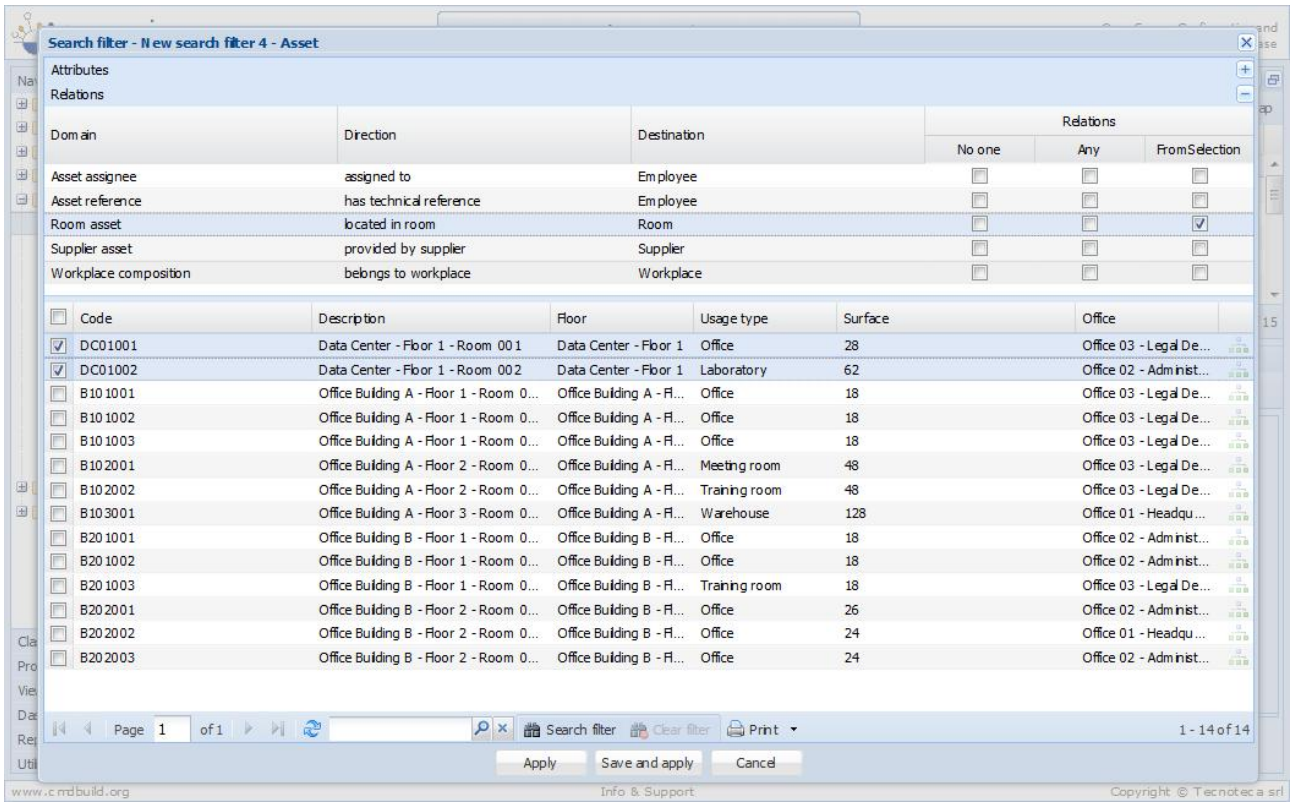


In the next example we extract all computers assigned to by "Mary Johnson" or "Michael Davis" (the selected domain is "AssetAssignee").



Also in this case, you can save and reuse the search.

The following example extracts all the computers in one of the two data center rooms (the domain is set to "Room asset").



The two selection types ("List" and "Filter" tabs) can be used simultaneously, i.e. it is always possible to narrow the list extracted by clicking on the checkboxes of the rows displayed.

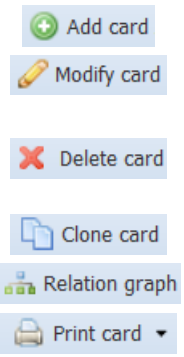
When the user confirms the search filter, the application searches matching cards; the columns shown are the ones defined in the Administration Module.

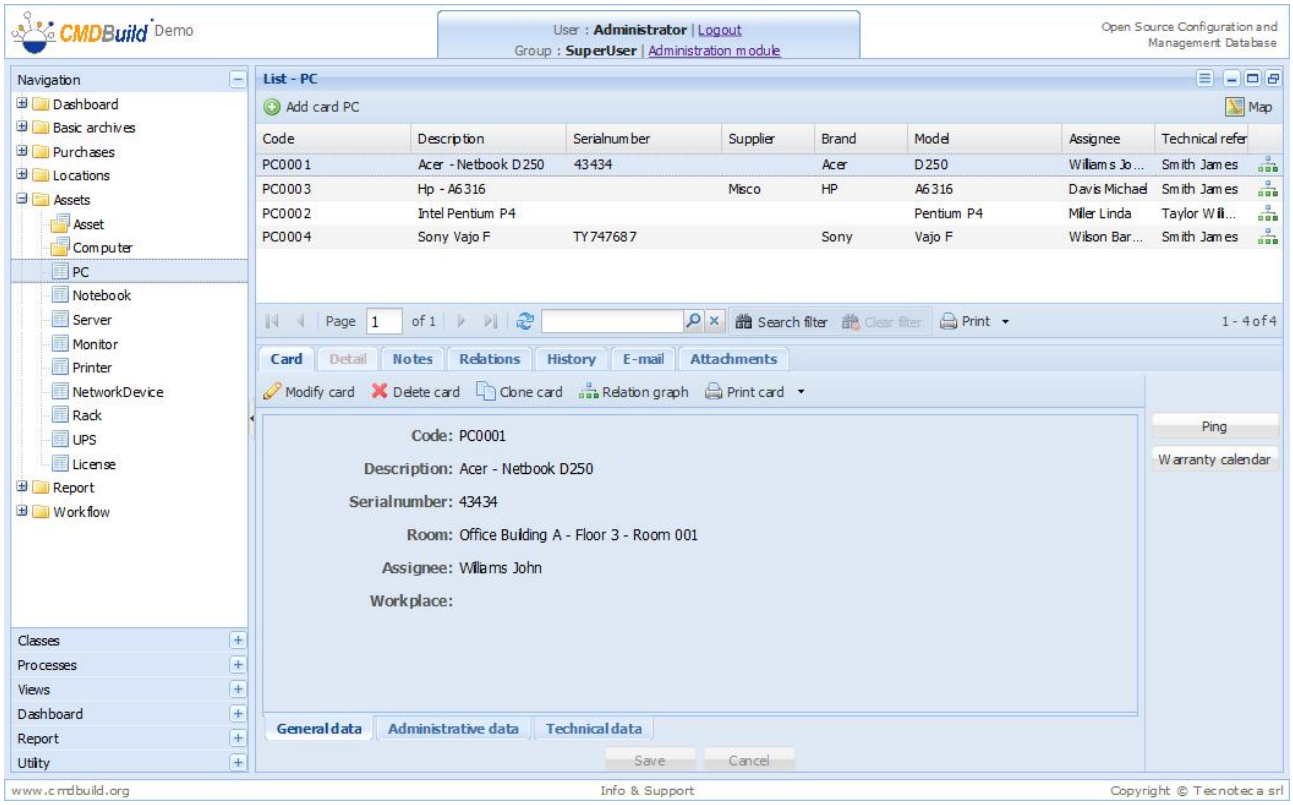
Card TAB

In addition to the card list (common to all subpages of this menu section), the Card TAB shows the list of attributes of the selected card.

There is the possibility of performing the following operations:

- create a new card by clicking on the "Add card" button
- edit an existing card by selecting the row and clicking the "Modify card" button
- delete an existing card by selecting the row and clicking the "Delete card" button (logical delete)
- clone the current card
- open the relations graph for the selected card
- print current card





The layout of cards containing a lot of attributes can be rearranged by splitting the information into data groups (in the screenshot the groups are "General", "Administrative data" and "Technical data"); using then the tabs (located on the top / bottom area - it depends on settings in the Administration Module) it's possible to open only the selected group of attributes.

The fields shown during an insert or update operation are configured using the Administration Module. There are two "Editing modes" you can set in the Administration Module: "Editable" for editable attributes and "Read Only" for read-only attributes.

Depending on the attribute type, the system uses in the form:

- standard input fields
- selection lists ("Lookup" fields type)
- reference fields with several options (see example below):
  - select a value directly from the corresponding list or open the pop-up window to use advanced features ("list" and "filter" tabs as described in the previous paragraph)
  - set values for domain attributes (those set in the Administration Module as "base display")
- date fields, with calendar widget

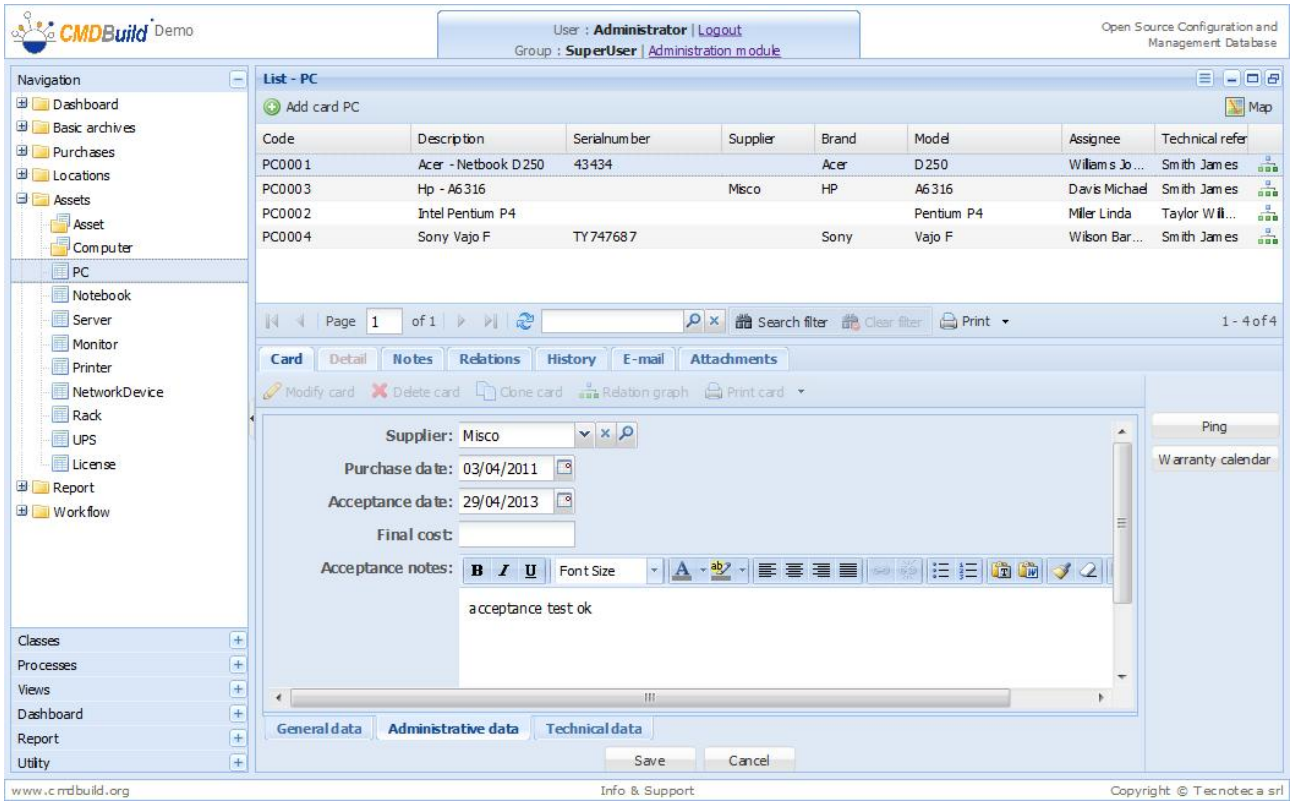
When the list of attributes exceed the visible area height, a scroll bar on the right helps you scroll down the whole list.

Using the form buttons you can confirm or cancel current operation.

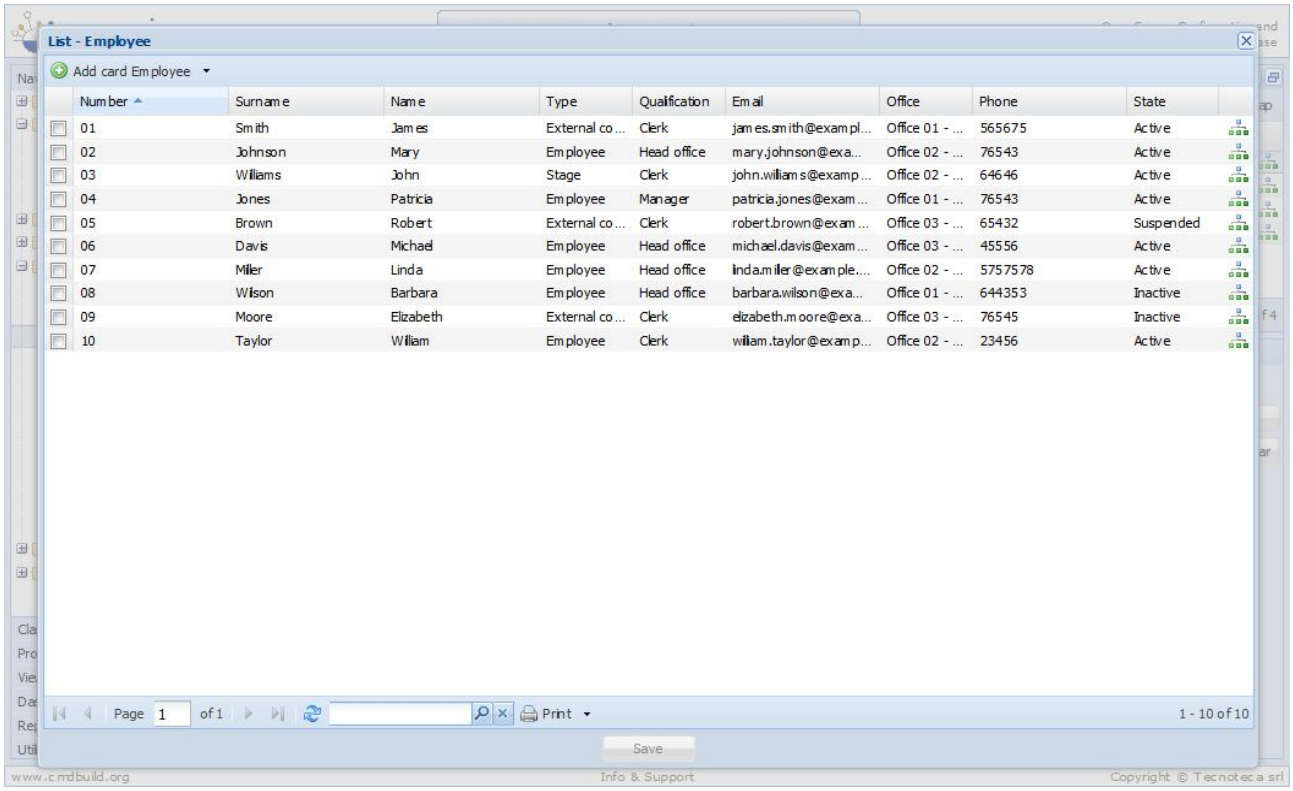
Any validation errors are highlighted using the current user language.

In the example below there's a card with an HTML field and a reference field ("Supplier"); on the right there are four icons:

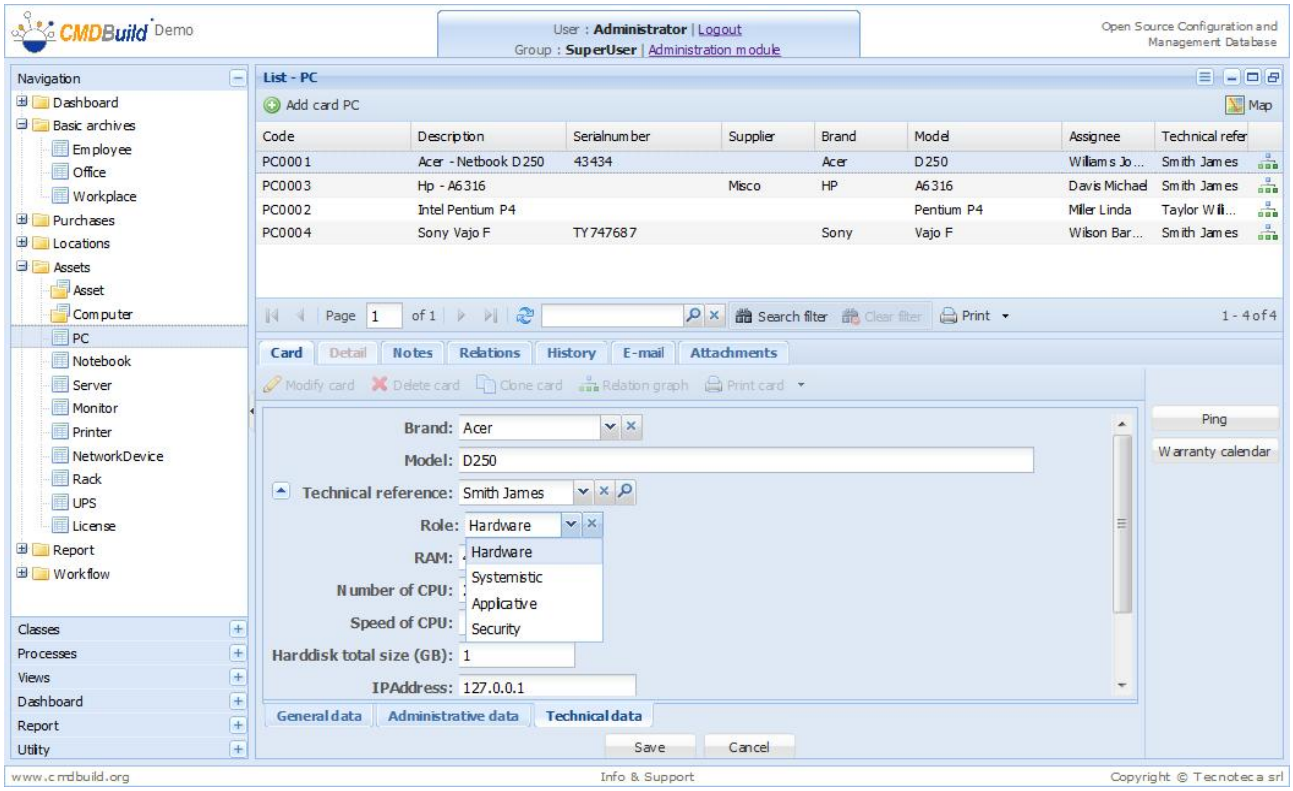
- the first opens the list with the names of the suppliers and lets you choose an option
- the second allows you to reset the value
- the third opens the advanced pop-up window (see below)
- the fourth provides access to the relation attributes (see below)



Below you can find the popup for "Assignee" reference field value, with advanced filter functionalities:



Below you can see a sample of management of those attributes defined on the "domain" where the Reference field "Technical reference" is configured (in the example the role of the asset's referent):



Widget

Widgets - which can be configured using the Administration Module - can be used to perform specific functions useful for the current card.

On a common card, the following widgets can be configured:

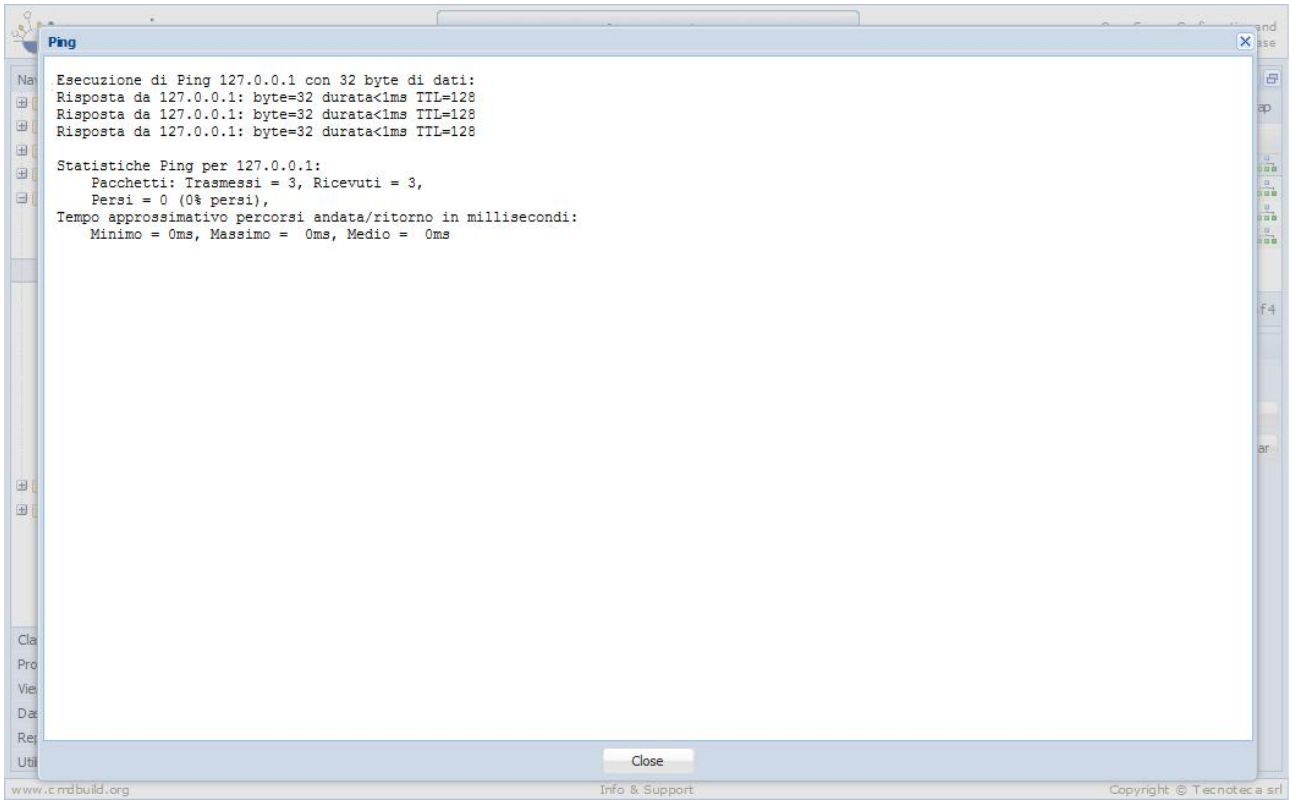
- Create report: it allows to print a report
- Calendar: it shows the specified deadlines on a calendar
- Navigation tree: it allows to select one or more datacards through an interface based on a preconfigured navigation tree (subset of the domain graph)
- Start workflow: it allows to start the specified workflow by using a popup window (the workflow will then go ahead with the common CMDBuild functions)
- Ping: it performs a ping on the specified host
- Create or modify card: it allows to insert / edit a data card into a class that is different to the current one

Further widgets can be used just within the workflows (see the Workflow Manual).

Below you can see examples of pop-up windows that CMDBuild creates in case of "Ping" and "Calendar" widgets.

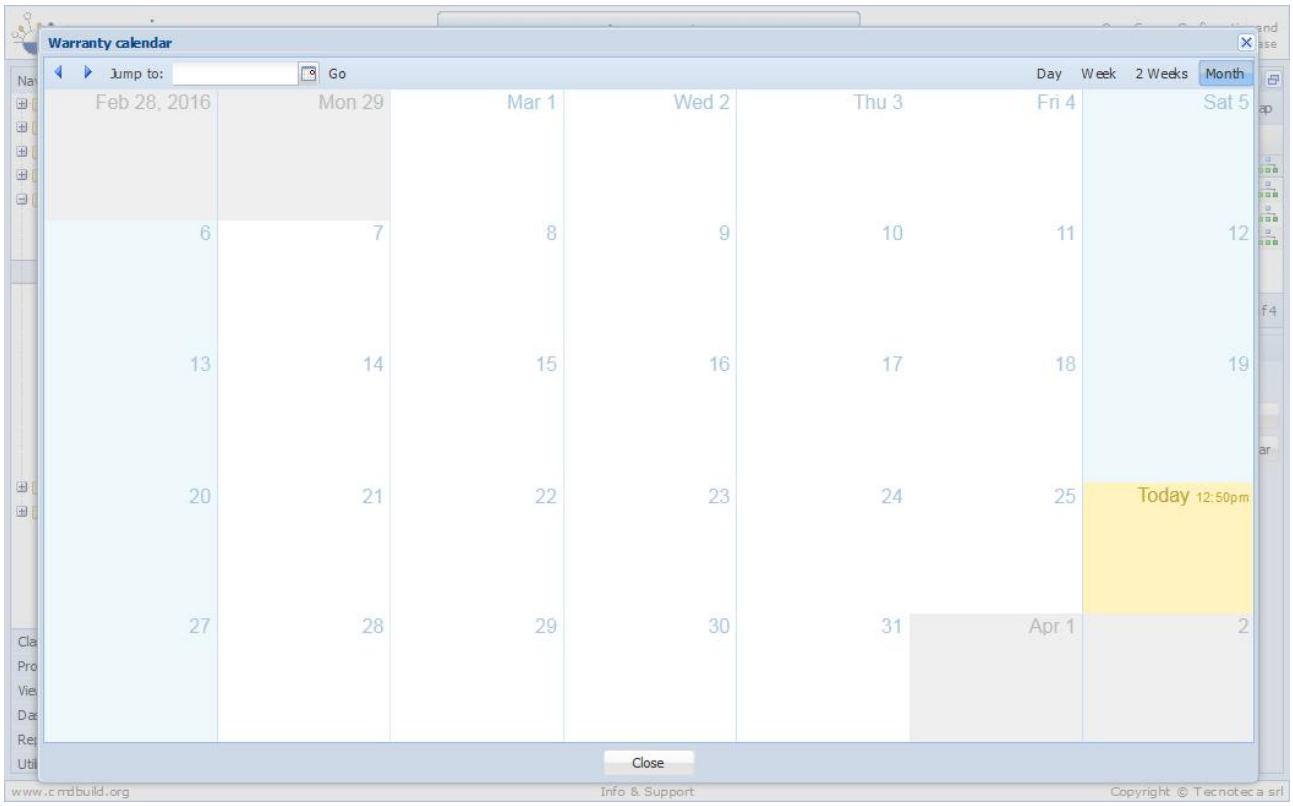
Ping

Using the "Ping" widget, you can run a "ping" command on the IP address of the current computer card and verify its reachability.



Calendar

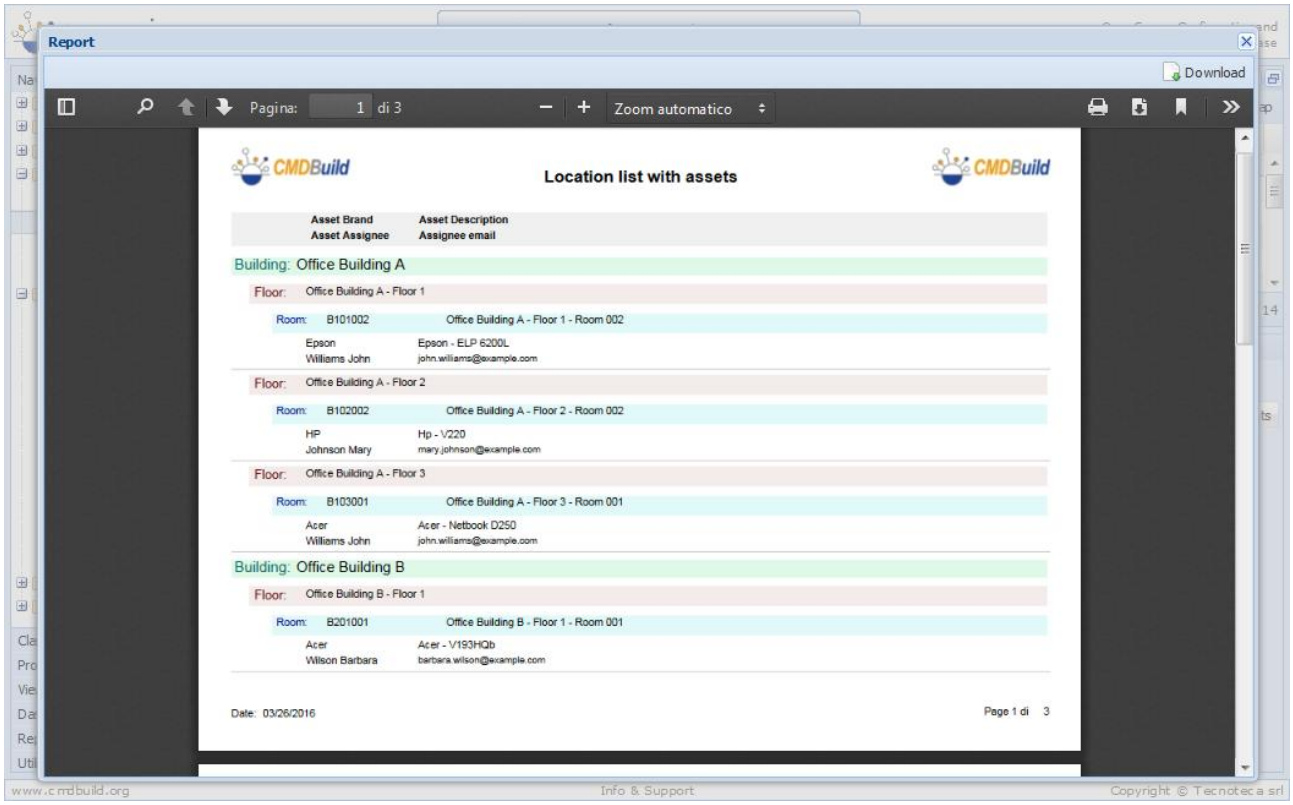
Using the "Calendar" widget, you can check the warranties by opening the calendar at the end of the warranty date of the current computer card.



Create report

It allows to print a report among the ones designed with IReport and imported into CMDBuild.

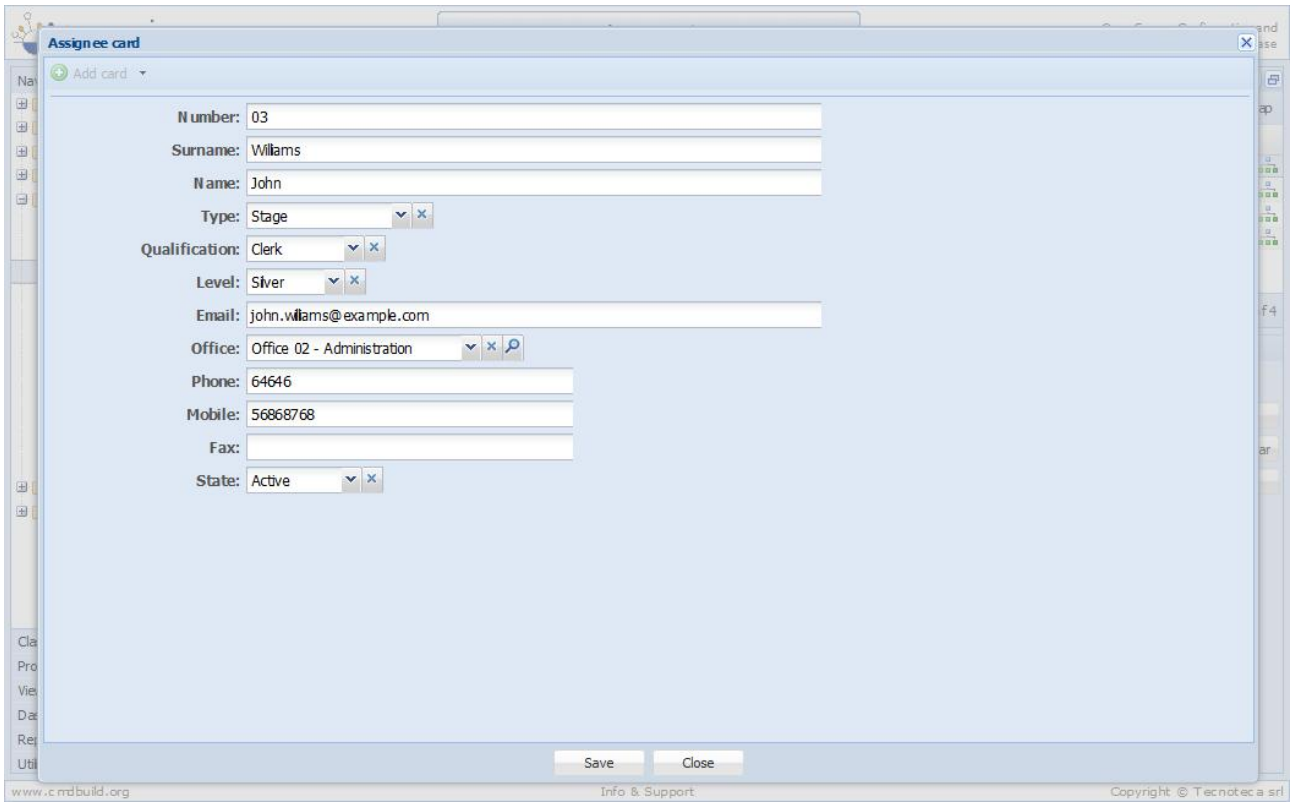
If the report includes certain parameters, they are required at rendering time.



Create or Modify Card

It allows you to enter (read-only or writable) a data card of interest in spite of the current one

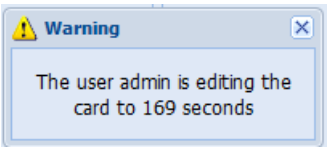
In the following example, starting from the card of a PC you can refer to every assignee's personal data



Lock of a card in edit

If the CMDBuild instance is configured with the active lock function and a user asks for a data card or a workflow to be edited ("Edit card" button), the system reserves the card / process instance to that user for the period defined in the configuration parameters.

If another user tries to edit the same card / process instance in the same period, the following error message appears:



“The user [username] has edited the card for [n] seconds”.

The card or process instance will be automatically released as soon as the first user leaves the editing modality, through the button "Confirm" or "Cancel".

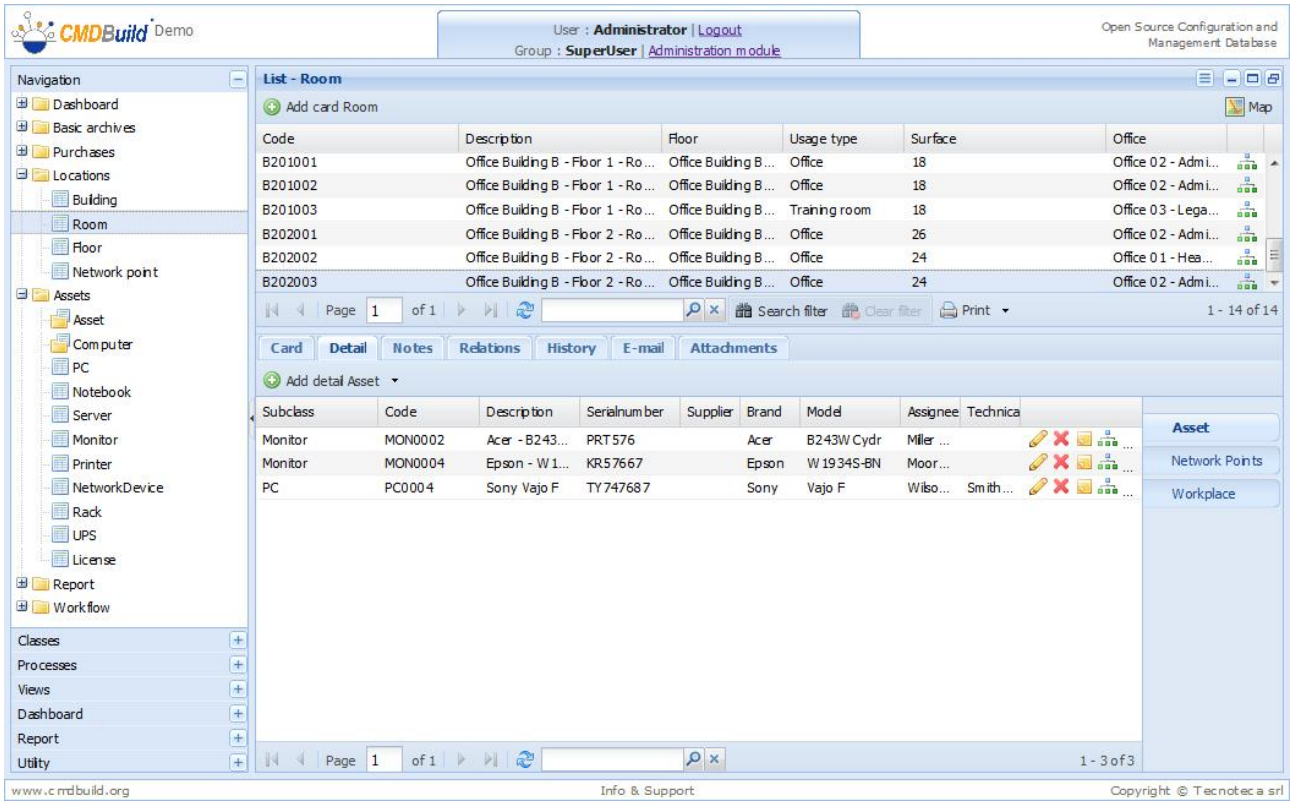
Details TAB

For certain classes it can be useful to manage cards using a "master-slave" schema, where "slave" cards are hierarchically related to "master" cards.

This option can be enabled by using the "Master Detail" checkbox on the corresponding domain, and defining in the detail (slave) class a reference field that refers to the main class (master).

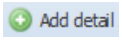
In the following example we have configured a domain so that the assets located in a given room are connected, with a Master-Detail domain, to the room itself.

As a consequence, the master card will show a further selection list (on the right) called "Details", which may include the name of one or more classes related to the "Master" class.



When accessing the card list, an entry called "Asset" (the domain description) will appear, and when selecting that entry we will get, in the tab "Details", the list of assets located in the current room.

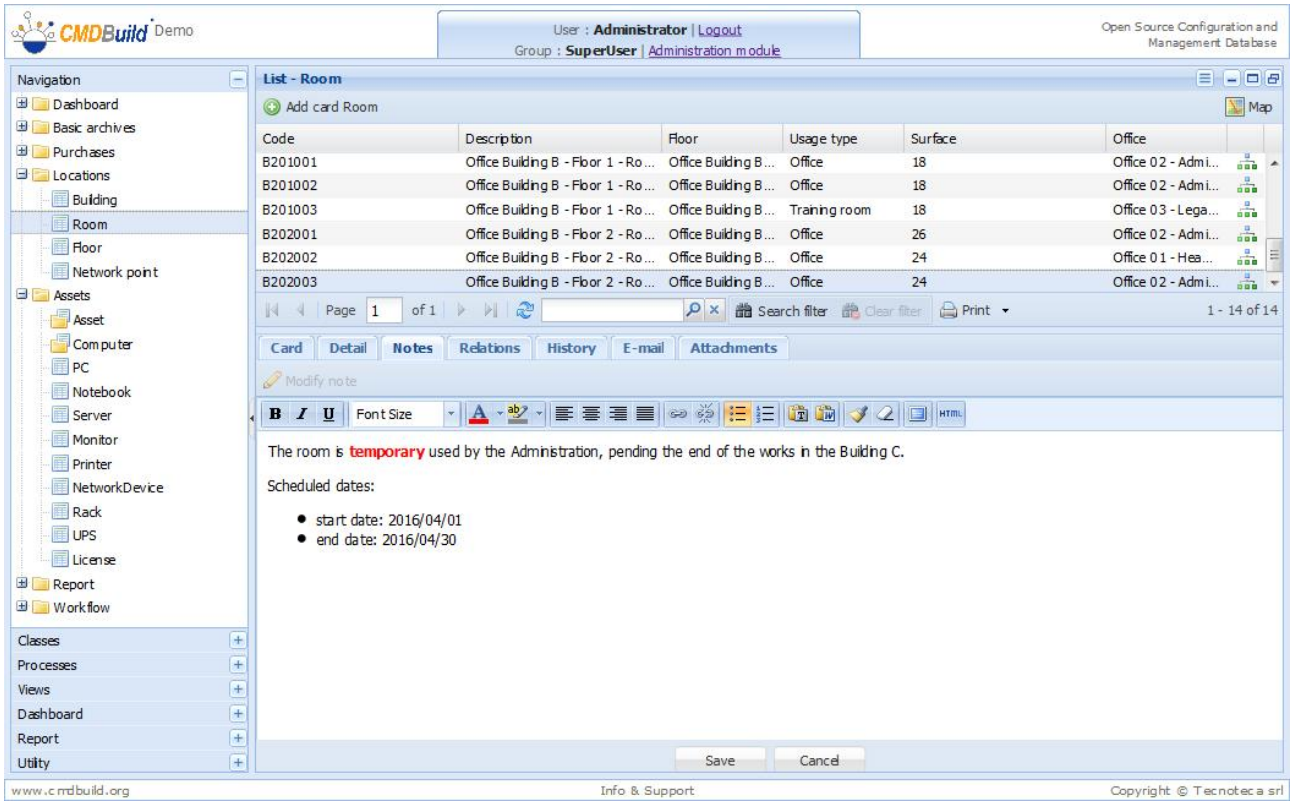
There is the possibility of performing the following operations:

- create a new card using the button on the top of the screen 

- edit card 
- delete card (logical delete) 
- open the relations graph for current card 
- displays and allows the editing of the "Notes" field
- displays and allows you to manage documents attached to the card 

Notes TAB

Using the "Notes" tab you can browse and update the "Notes" field, a field containing a description of the selected card.

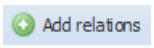


The "Notes" field is managed using an HTML editor that allows various formatting options (type, size and font color, text alignment, lists).

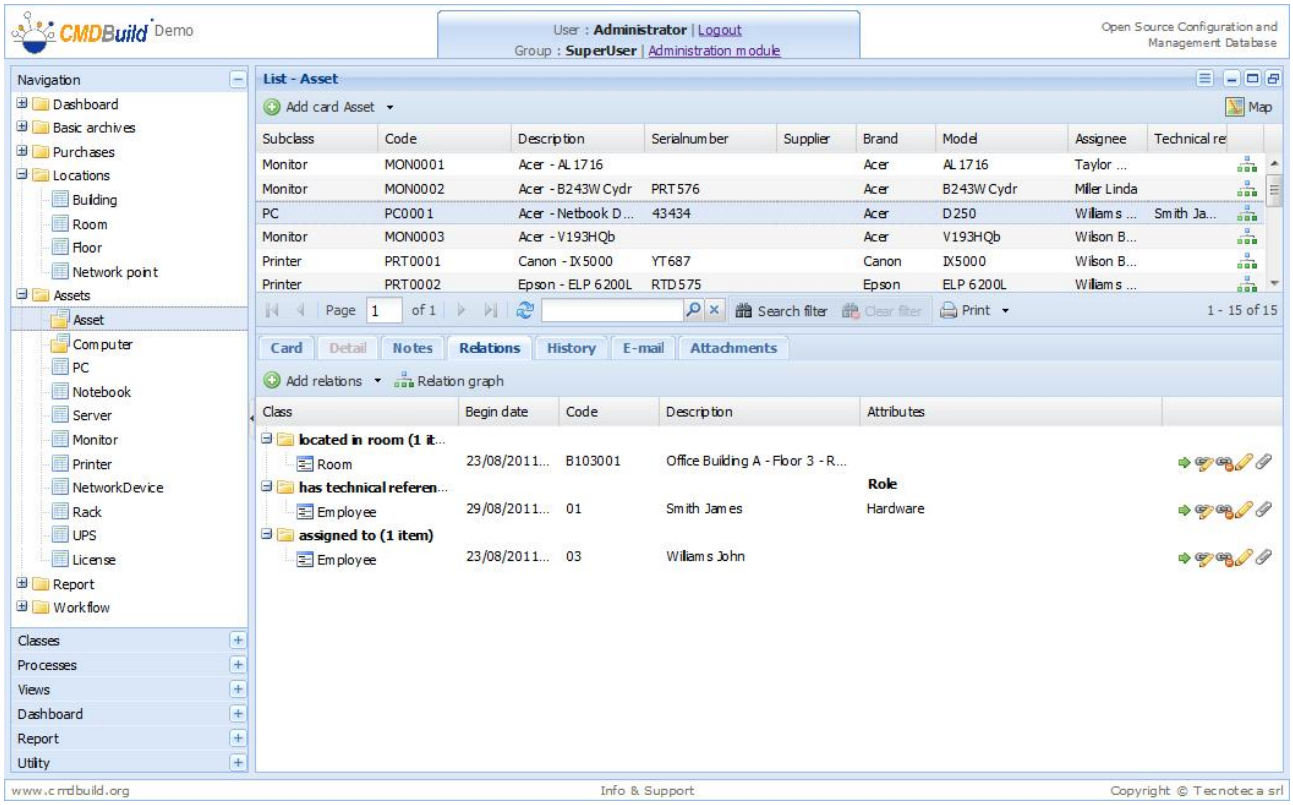
Relations TAB

The "Relations" TAB allows you to manage the relations of the current card.

There is the possibility of performing the following operations:

- create a new relation for the current card 

- open (move to) the related card (double click on the card row) 
- edit relation linking a different card 
- delete relation (logical delete) 
- open or edit related card 
- open the attachments of the linked card 
- open the relations graph to see active relations 



The relations are grouped by domain, with the possibility of collapsing or expanding each group.

By default, the groups containing a number of relations minor than the threshold set in the Administration Module are automatically expanded.

The application shows also the attributes defined for the domain (if any).

The relations tab is disabled if no domains involve the current class (directly or through a superclass).

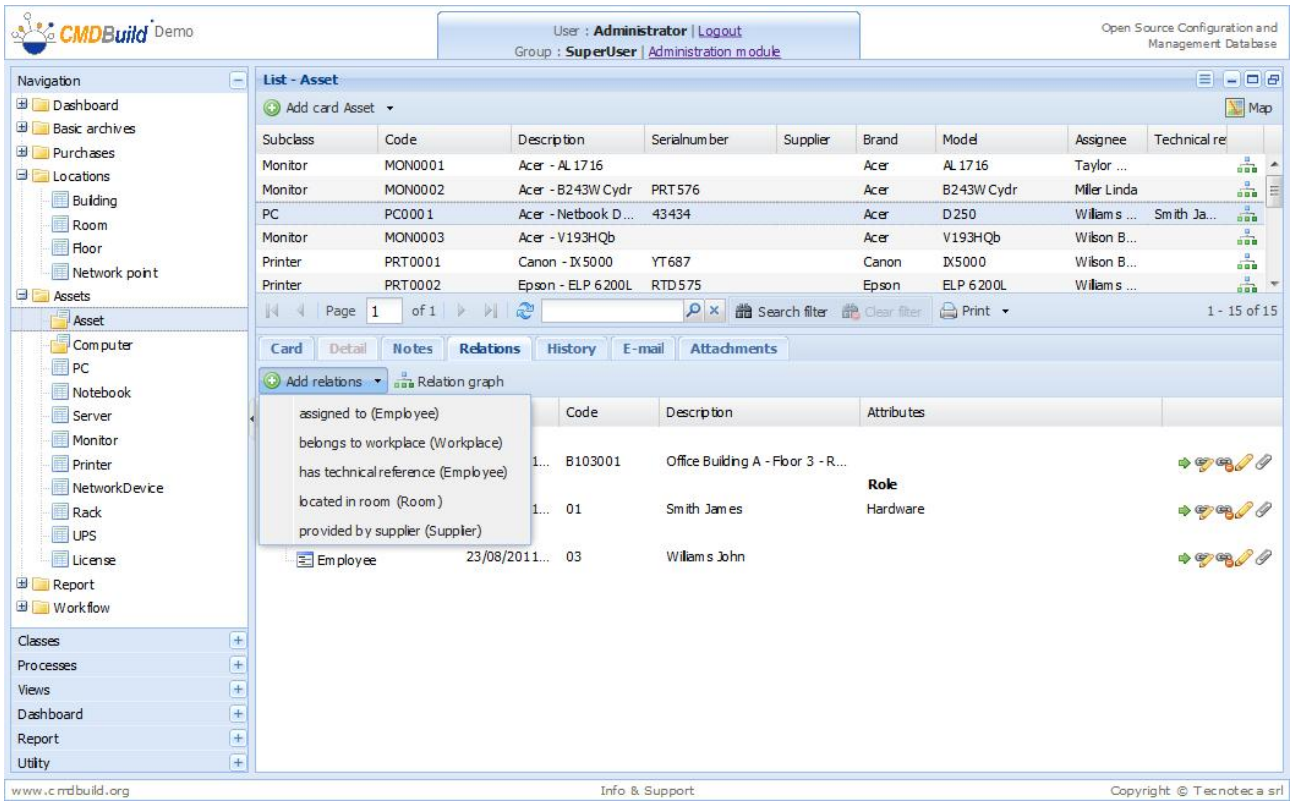
Create new relation

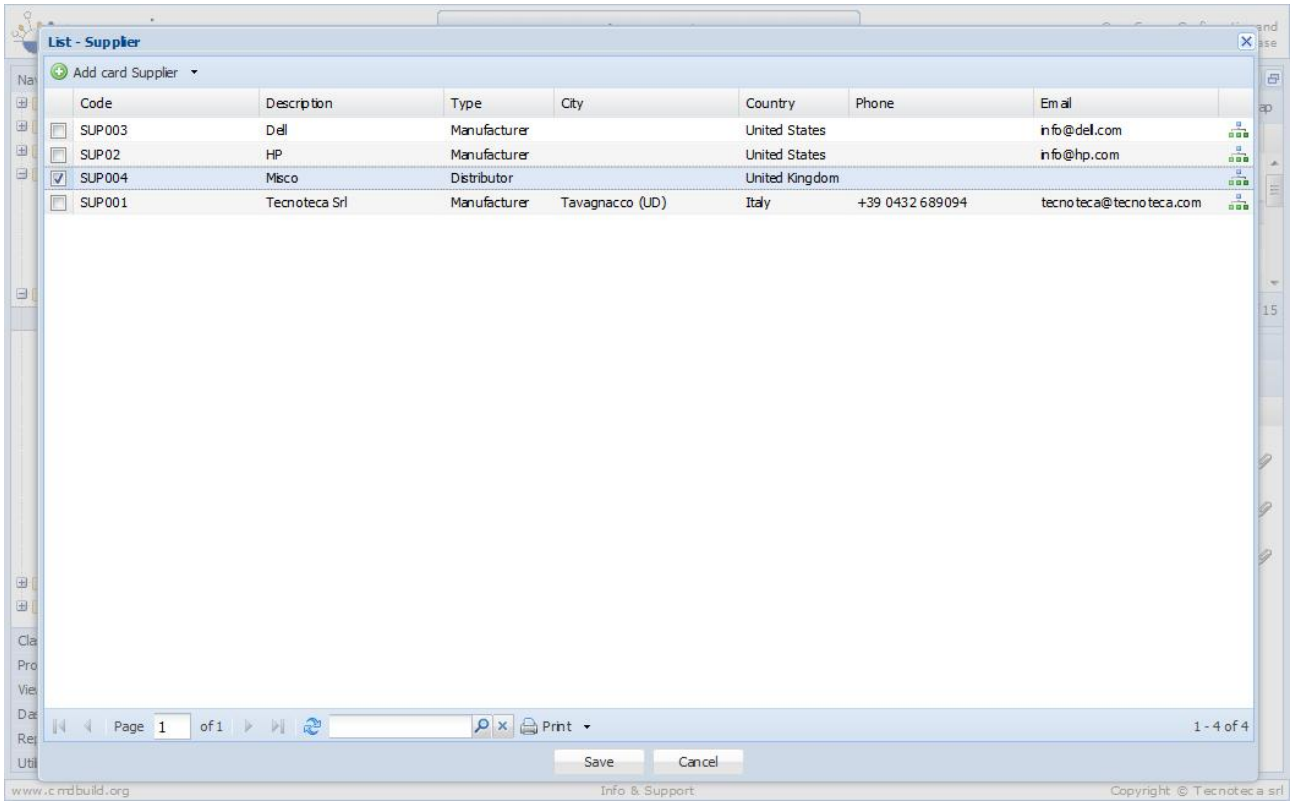
To create a new relation you can click the "Add domain" button that shows the list of domains (relationship type) available for the current class.

The application opens a popup window with a list of cards, so you can select a card to be connected either directly or by applying some filters in the "Filter" tab.

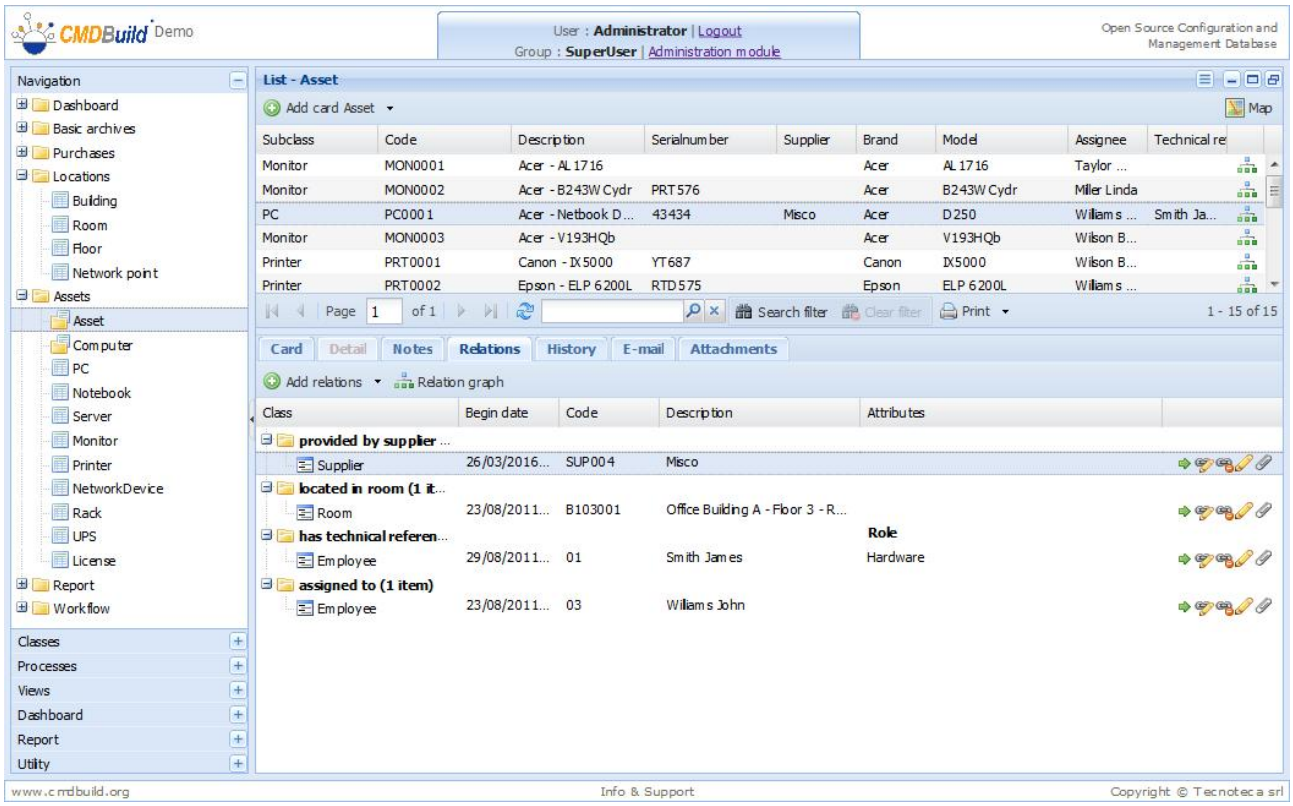
Depending on the domain cardinality, you might be able to select more elements using checkboxes.

In the next example we chose a card from the "Asset" class, then we selected the domain "provided by supplier" and then we selected the "Misco" entry from the list of available suppliers.





By confirming the operation, we will have a relation between the asset and the supplier.



Move to related card

By clicking on the green arrow on the right or by double-clicking the row, the application moves to the "Relations" TAB of the related card.

Edit relation

The edit function uses the same tool described for the creation of a new relation.

In this case, however, the domain maintains the original value.

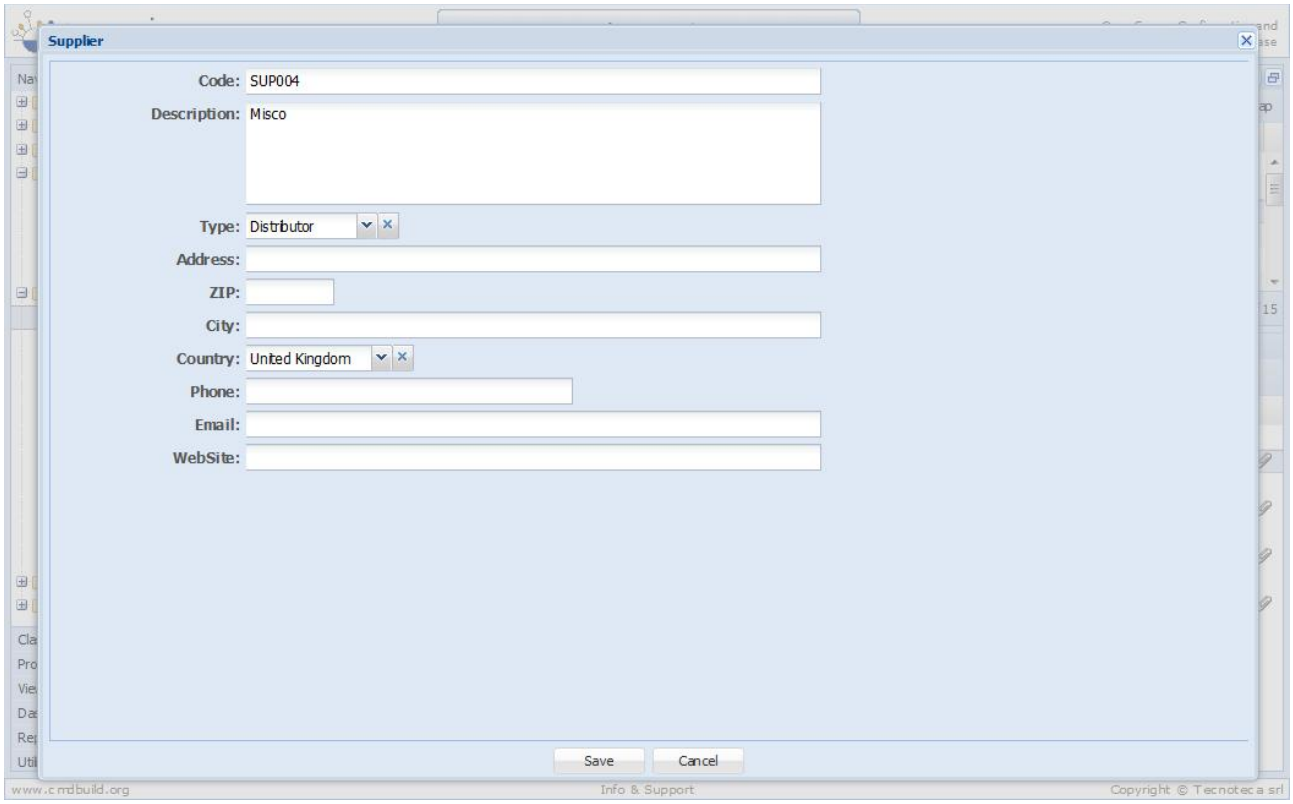
Delete relation

Relation is deleted, but logical delete is performed (thus history is still available).

Display related card

The application shows in a pop-up window the related card with all its attributes.

For example, this is the visualization of the supplier card connected to the PC.



Open relations graph

Please refer to the specific chapter at the beginning of this manual.

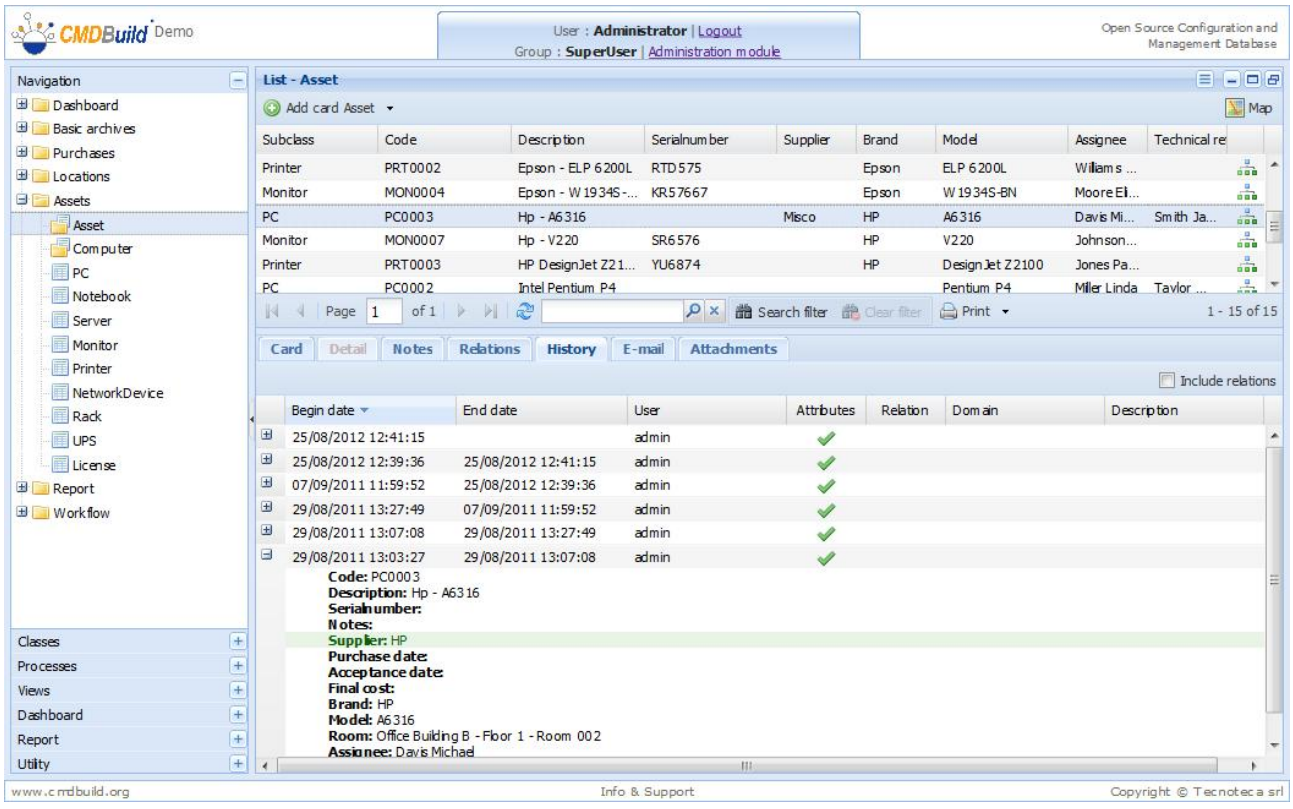
History TAB

Thanks to the "versioning" feature included in CMDBuild, the "History" TAB allows you to browse the history of the selected card.

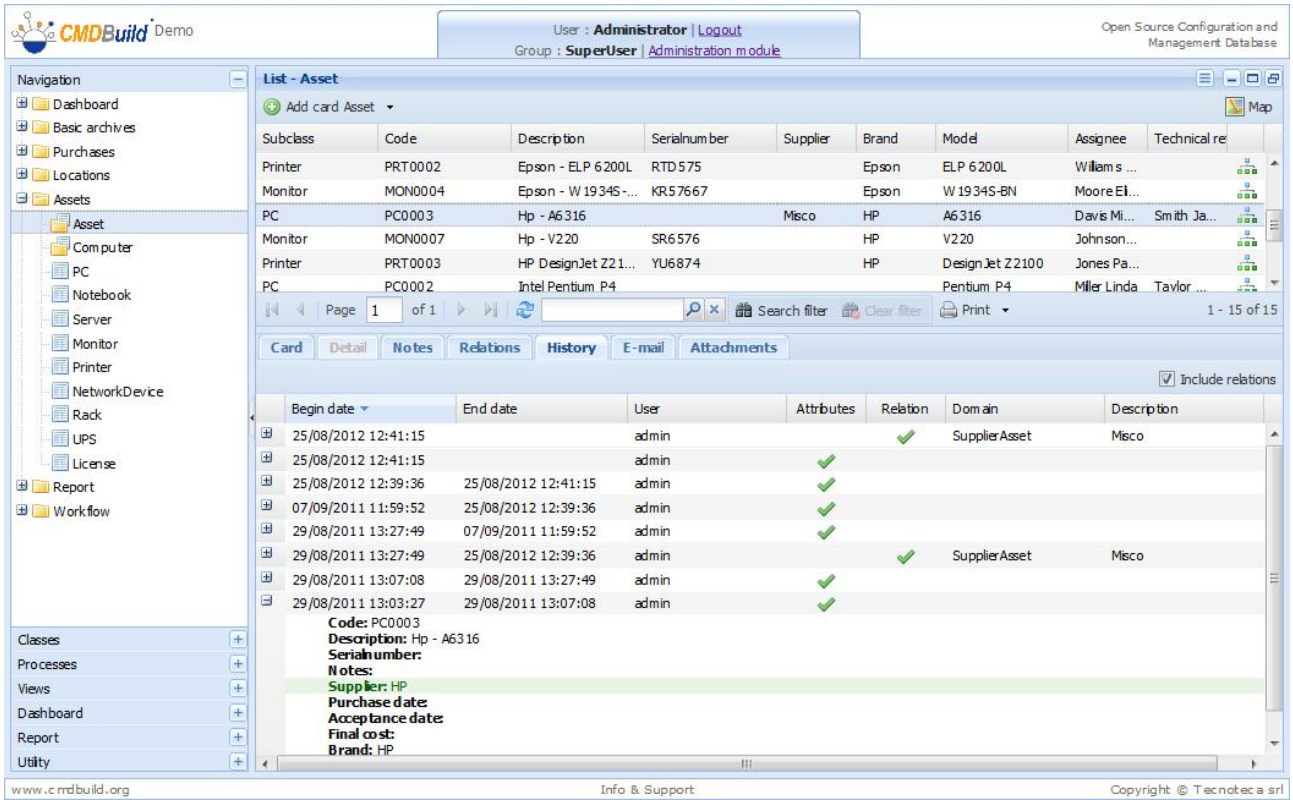
The card "versions" are displayed one per line, and you can expand / close the card details.

For each "version" of the card the system shows:

- the starting date for that version
- the ending date for that version
- the user who made the change
- an icon to recognize attributes change or relations change
- in the first case, the attributes of the card for that specific "version", with highlighted changes (in green)
- in the second case, the code and description of the related card at that time ("version")



Using the check “Include relations” you can consult the relation history.


CMDBuild Demo
User : Administrator | Logout
Group : SuperUser | Administration module
Open Source Configuration and Management Database
Navigation
Dashboard
Basic archives
Purchases
Locations
Assets
Asset
Computer
PC
Notebook
Server
Monitor
Printer
NetworkDevice
Rack
UPS
License
Report
Workflow
Classes
Processes
Views
Dashboard
Report
Utility
List - Asset
Add card Asset
Map
Subclass Code Description Serialnumber Supplier Brand Model Assignee Technical re
Printer PRT0002 Epson - ELP 6200L RTD575 Epson ELP 6200L Williams ...
Monitor MON0004 Epson - W1934S-... KR57667 Epson W1934S-BN Moore El...
PC PC0003 Hp - A6316 Misco HP A6316 Davis Mi... Smith Ja...
Monitor MON0007 Hp - V220 SR6576 HP V220 Johnson...
Printer PRT0003 HP DesignJet Z21... YU6874 HP DesignJet Z2100 Jones Pa...
PC PC0002 Intel Pentium P4 Pentium P4 Miller Linda Taylor ...
Page 1 of 1
Search filter
Clear filter
Print
1 - 15 of 15
Card Detail Notes Relations History E-mail Attachments
Include relations
Begin date End date User Attributes Relation Domain Description
25/08/2012 12:41:15 admin SupplierAsset Misco
25/08/2012 12:41:15 admin
25/08/2012 12:39:36 25/08/2012 12:41:15 admin
07/09/2011 11:59:52 25/08/2012 12:39:36 admin
29/08/2011 13:27:49 07/09/2011 11:59:52 admin
29/08/2011 13:27:49 25/08/2012 12:39:36 admin SupplierAsset Misco
29/08/2011 13:07:08 29/08/2011 13:27:49 admin
29/08/2011 13:03:27 29/08/2011 13:07:08 admin
Code: PC0003
Description: Hp - A6316
Serialnumber:
Notes:
Supplier: HP
Purchase date:
Acceptance date:
Final cost:
Brand: HP
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Attachments TAB

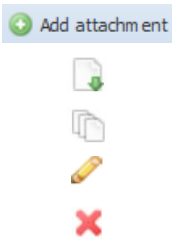
The "Attachments" TAB allows you to view the documents attached to the current card.

The application uses Alfresco DMS as storage system, however standard operations (such as attach, open, delete, etc.) take place using CMDBuild standard interface.

When loading a new attachment, the user must select a document type from a drop-down list; this list must be defined using Administration Module (administrator has to create a specific Alfresco Lookup and set all the parameters into the Alfresco configuration page).

There is the possibility of performing the following operations:

- upload a new attachment
- download attachment (open)
- display the history of the document versions
- edit attachment description
- delete attachment



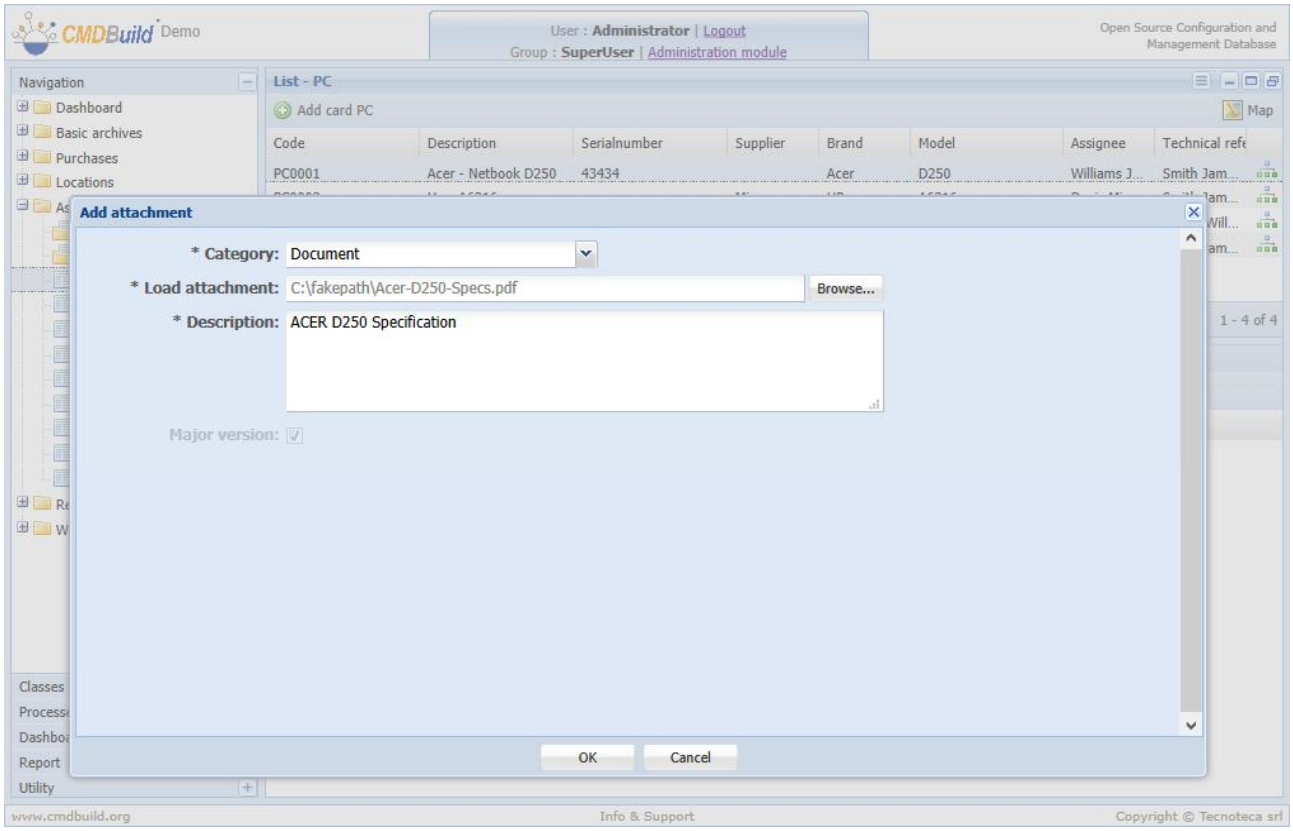
The integration of Alfresco DMS requires the creation of a specific CMDBuild area inside the Alfresco repository, creating a folder dedicated to the first level, a subfolder for each class and, inside, a subfolder for each card.

The attachment feature is completely integrated in CMDBuild, so the use of Alfresco interface is not necessary. However, those wishing to use the Alfresco interface will find the same documents available in CMDBuild.

Attachments upload

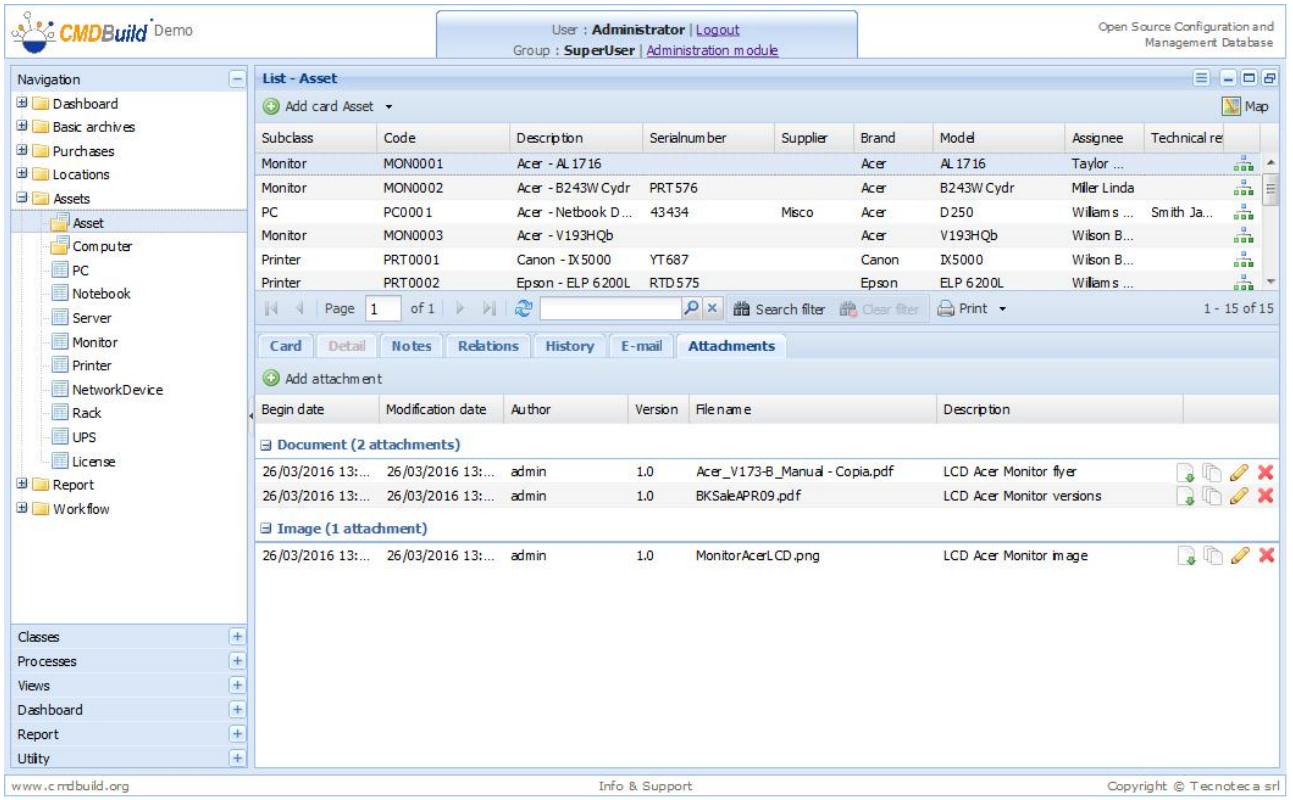
The upload takes place using a file upload form, the fields are:

- attachment category (related to a specific lookup - see the configuration parameters in the Alfresco section of the Administration Module)
- file
- attachment description



Attachments display

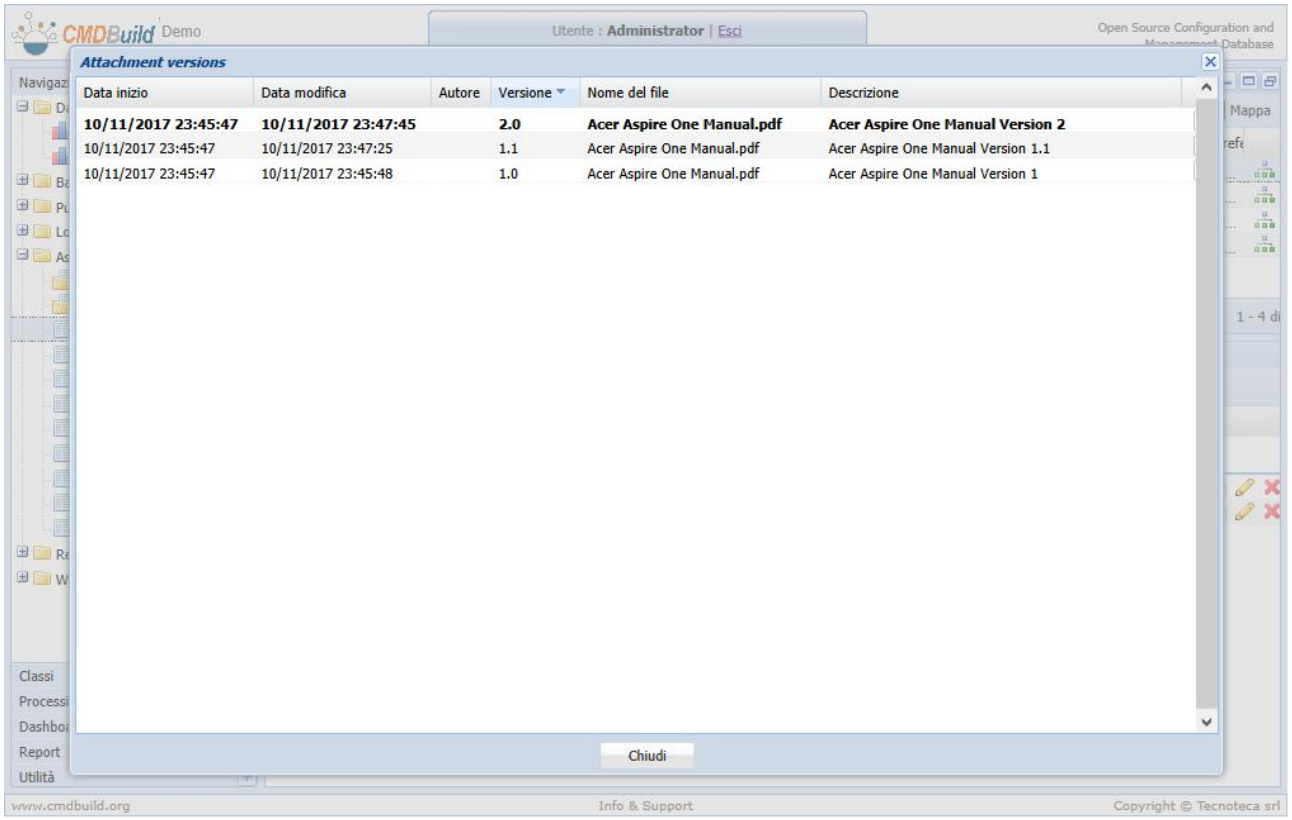
The files attached to the current card are presented in this way:



In case you edit an uploaded document through the proper icon, CMDBuild will create a new version asking if it has to be enumerated as "minor version" (1.1, 1.2, etc) or as "major version" (1.0, 2.0, etc).

For every document version it will be then possible to consult the following data in a proper popup window:

- the creation date
- the date of the last change
- the expiry date
- the author
- the version
- name
- description



Map management

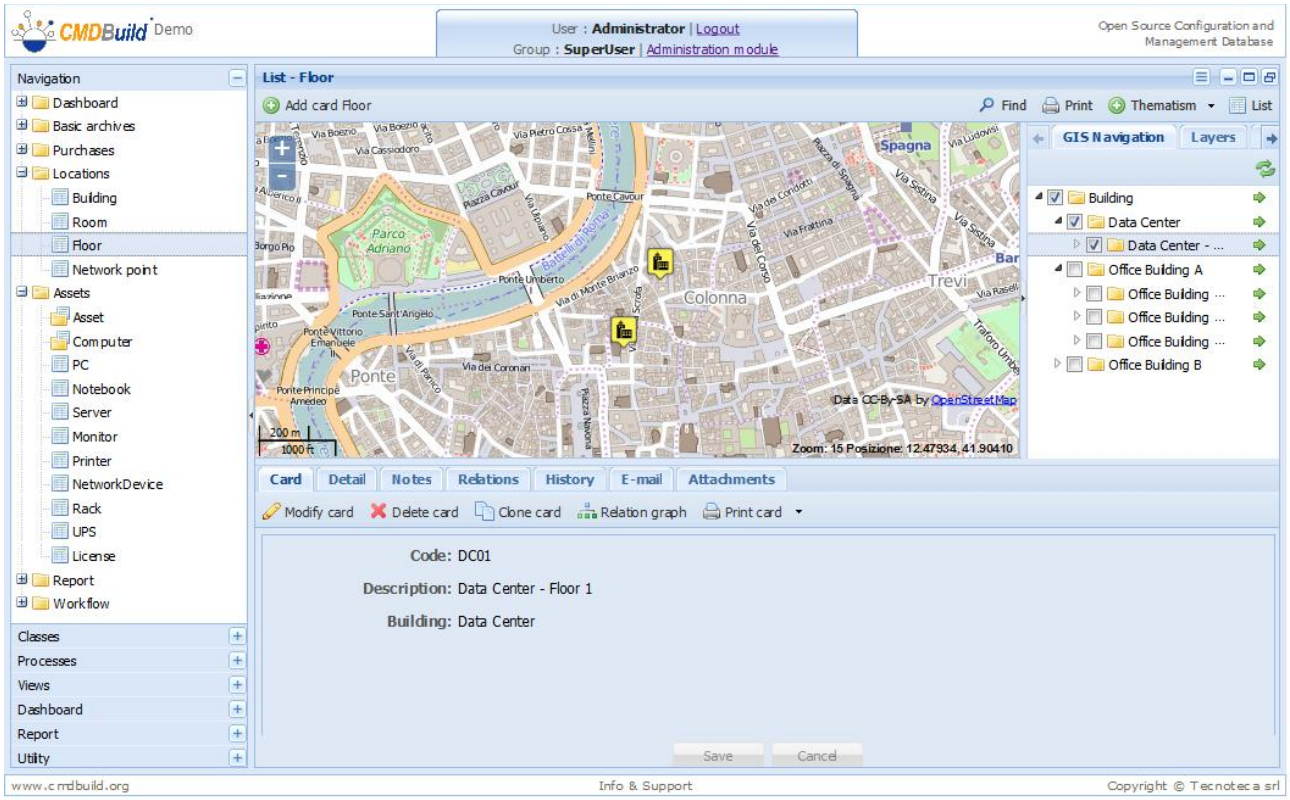
By clicking on the "Map" button you can see or change the position of an object on the map (or plan); let's see how to configure the GIS feature in CMDBuild.

The prerequisites are:

- PostGIS installation (please refer to technical documentation for version number)
- activation of PostGIS operations in your database (SQL scripts provided in the PostGIS documentation)

The CMDBuild configuration requires:

- configuration - in the Administration Module - of at least one geographical attribute
- activation of a map service (Open Street Map or Google Maps or Yahoo! Maps) and / or activation of GeoServer GIS server for raster / vector files (plans, etc.)



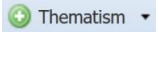
The GIS features available in CMDBuild, once you switch to map mode (button "Map" on the grid), include:

- switch to map mode 

- back to "List" mode 

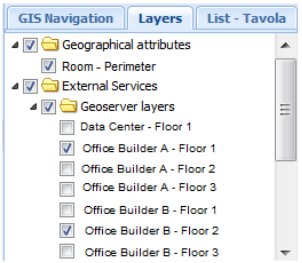
- address research on the map 

- print of the map 

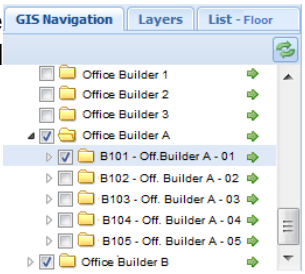
- list of thematic maps 

- "zoom in" / "zoom out", using the mouse wheel or by using the map controls

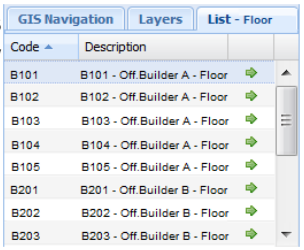
- “pan", by moving the mouse on the map
- “control layer”, to activate a preconfigured map service and show one or more layers for the current class



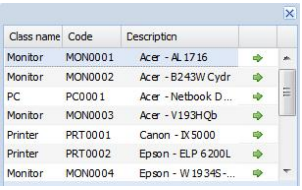
- GIS navigation tree, to go into details of an item and to display those elements contained in the lower levels; you can also go into the related card by clicking on the green arrow on the right



- list of elements of the current class, to display those elements contained and to go into the related card by clicking on the green arrow on the right



- “info”, i.e. display the list of those elements set in a certain point of the map, which can be reached by pressing the left button more than two seconds; also in this case you can place into the related card by clicking on the green arrow on the right

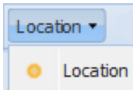


- zoom level and current coordinates of the mouse cursor

On the other side the GIS features available by editing the current cards include:

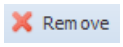
- display the editing toolbar by entering card editing mode

- select the geographical attribute (if the current class has more than one)



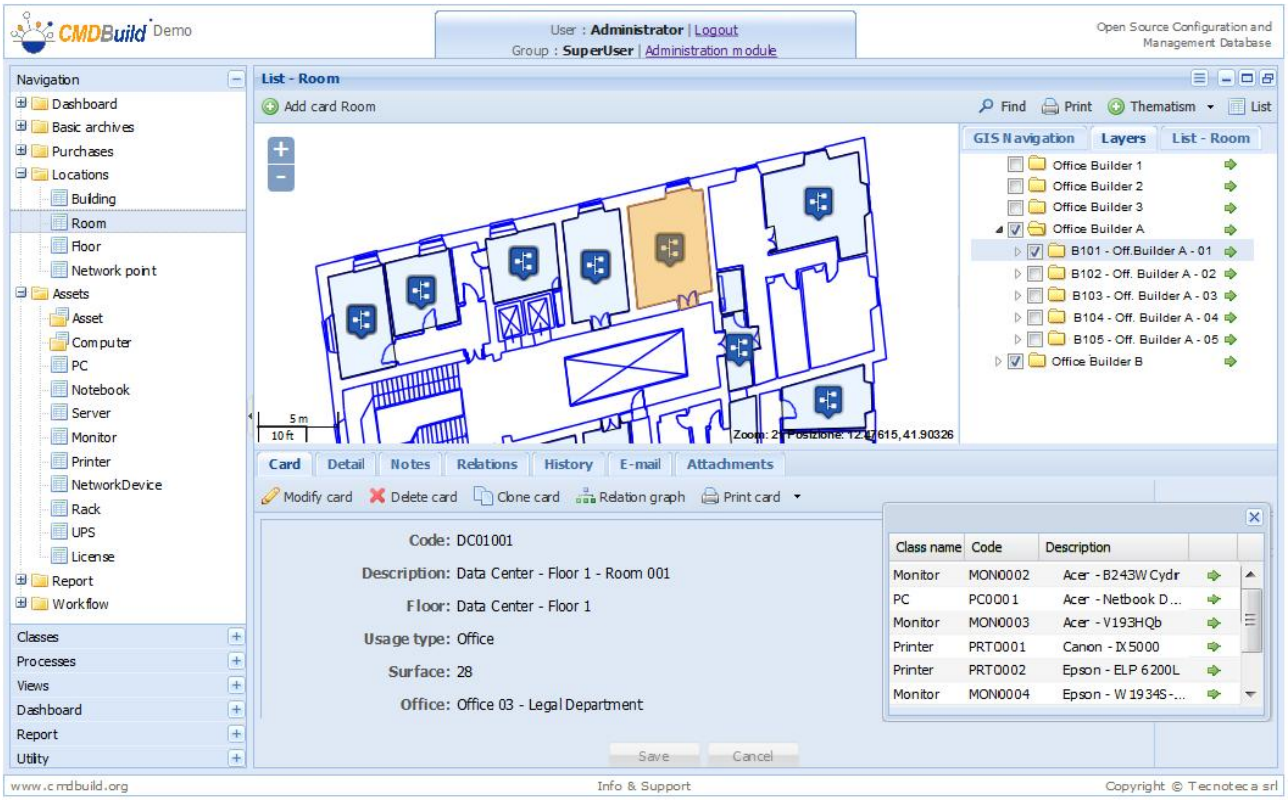
- add a new geographic element or move an existing one (the addition of a new element automatically removes the previously

defined element, causing its replacement)

- delete the existing geographic element for the current card 

Through the described functionalities, you can get an advanced management of the asset georeference.

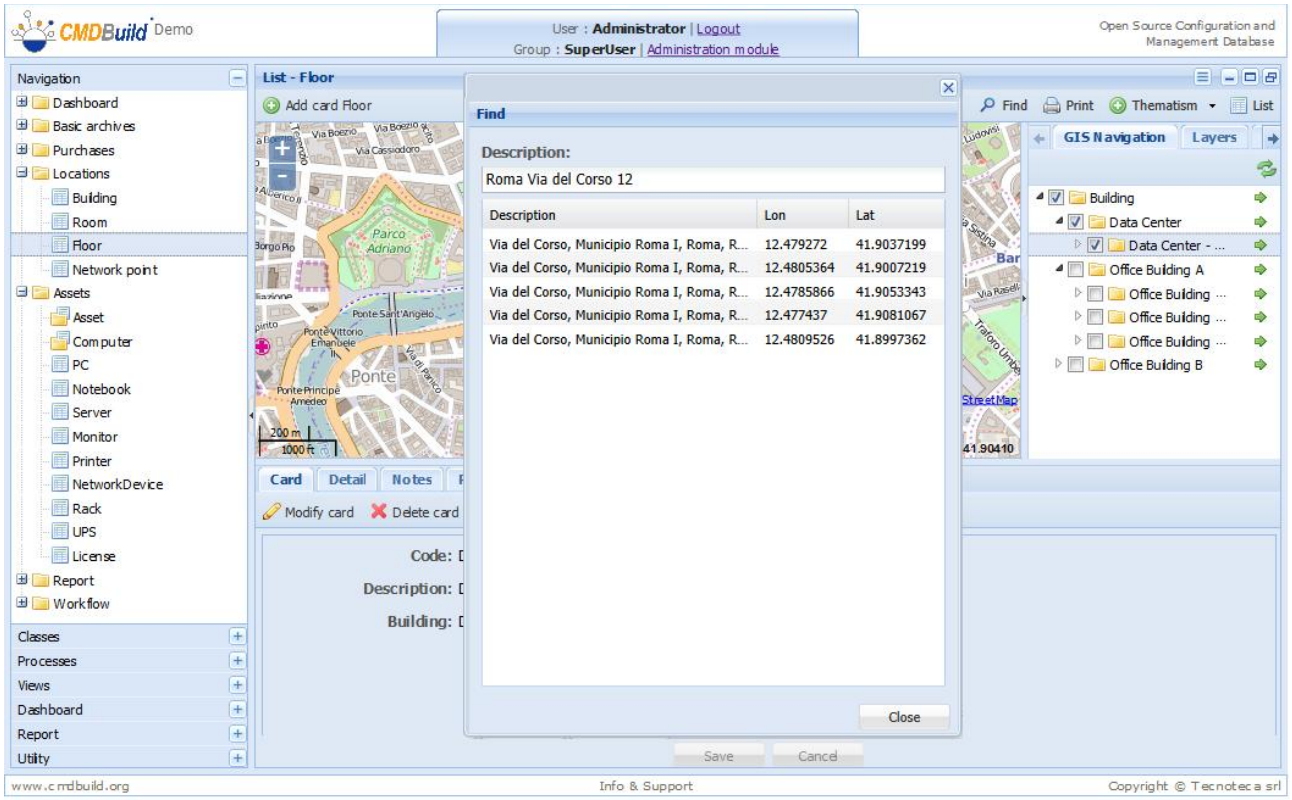
Sample of items set onto the plan:



Address research

The research of an address on the map (available on Open Street Maps) can be done through the popup window shown in the following image.

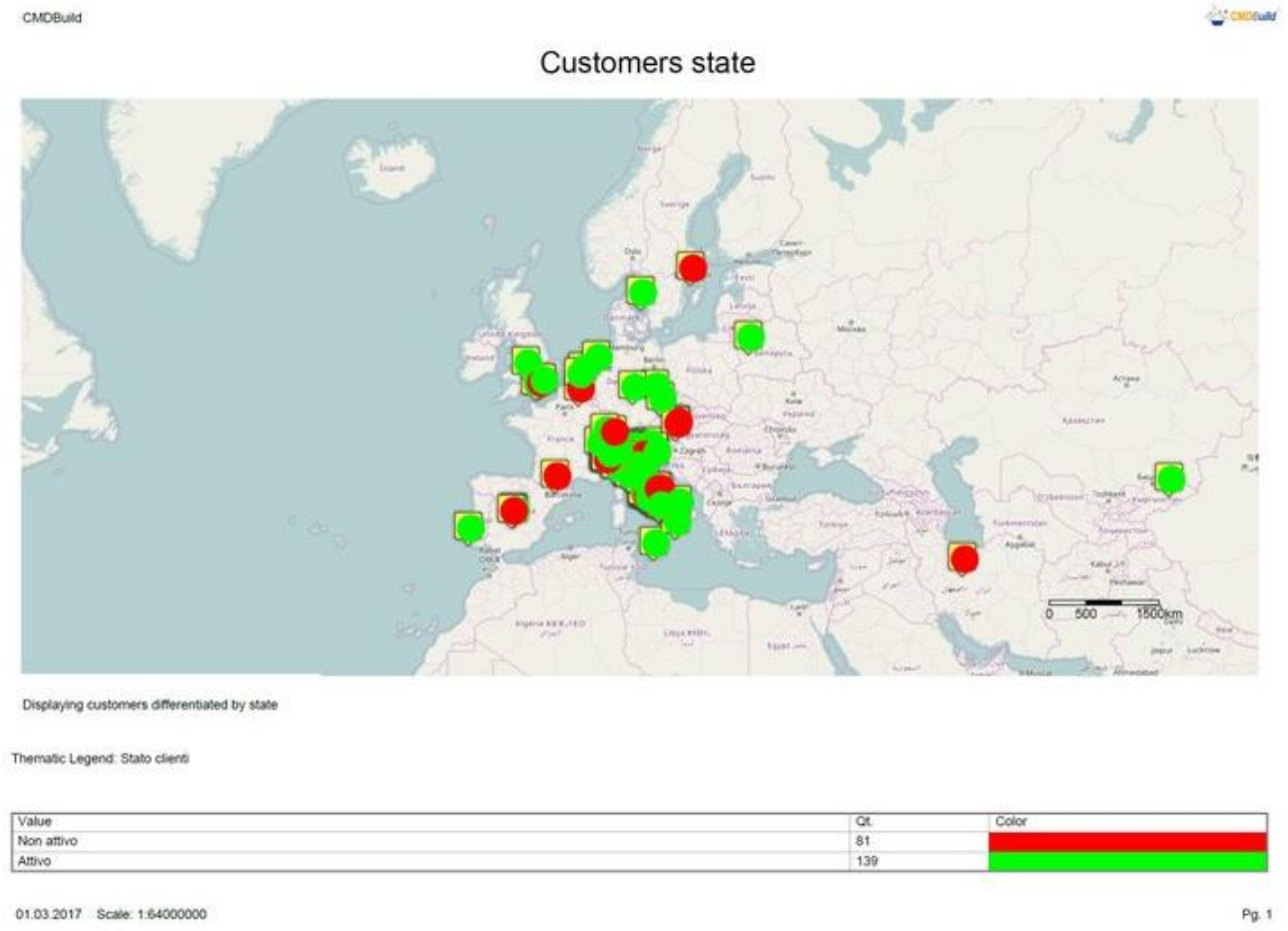
CMDBuild presents the list of those addresses corresponding to the description and, after the confirmation, sets the map on that address.



Print of the map

The function to print the map produces a PDF file that includes both the displayed image and the legend of the thematic maps.

An example:

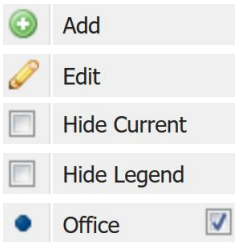


Management of the thematic maps

The management of the thematic maps allows to represent graphically on the map, with colours and forms defined by users, information included in the cards, such as the status of an item, the item classification according to duration, classification of buildings or compartments according to the content tipology or to the content compared to the dimension, etc.

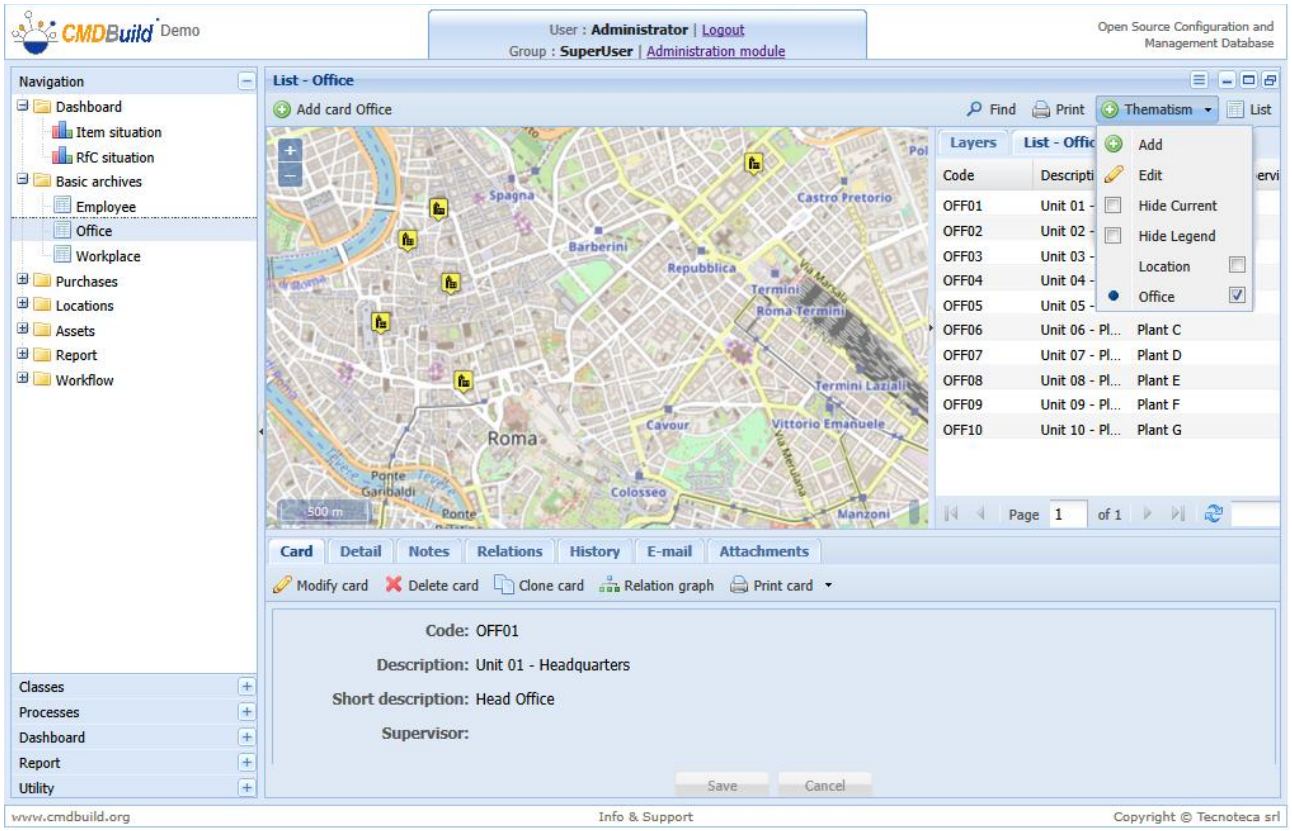
Through the proper function you are able to:

- configure a new thematic map
- edit a thematic map present on the map
- hide the current thematic map
- hide the legend of the current thematic map
- activate / disable one of the thematic maps available on the map

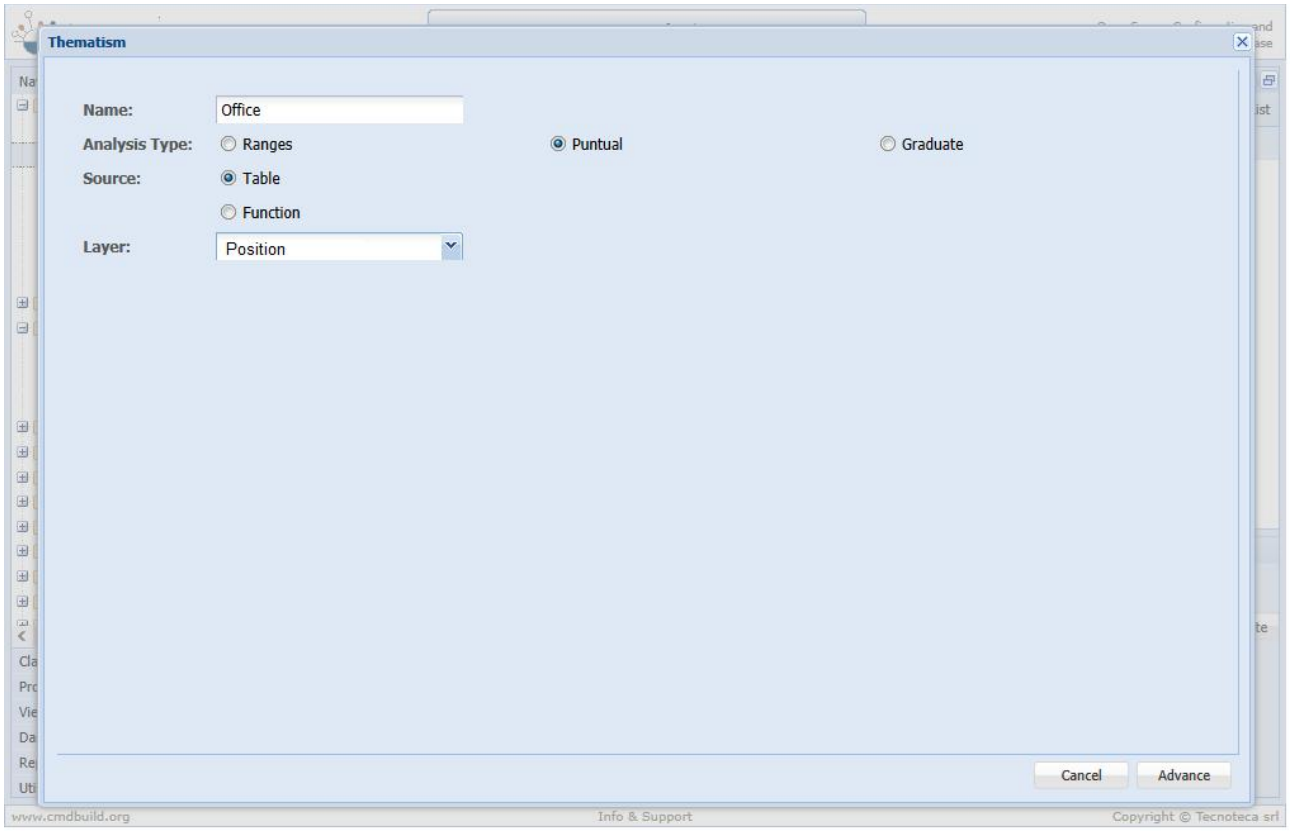


In order to configure a new thematic map, the following steps are necessary.

Addition of a new thematic map



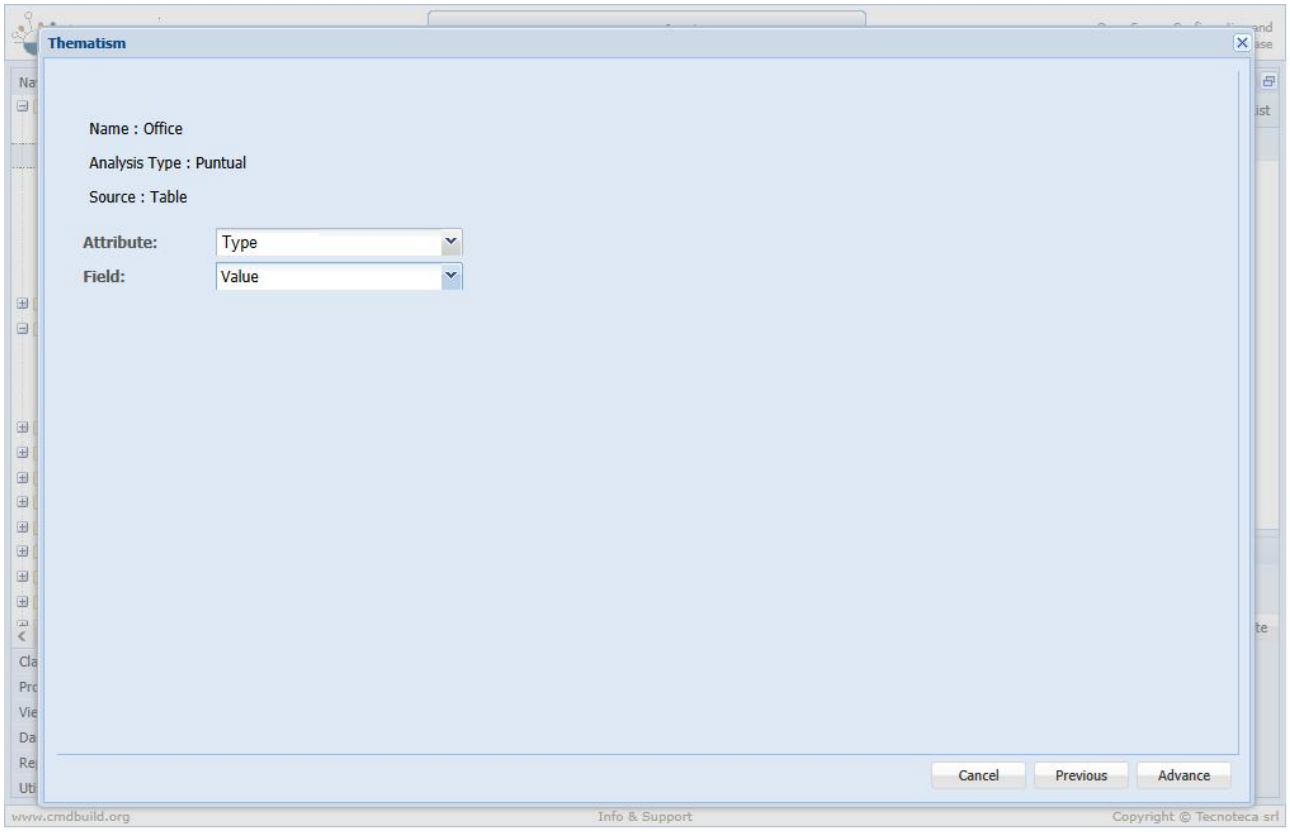
Configuration of thematic map - step 1:



You are required to specify:

- the name of the thematic map
- the type of the thematic map, that is:
  - “Interval”: in the graphic representation the colour depends on the interval where the value to represent is located
  - “Punctual”: in the graphic representation the colour depends on the value to represent (it is possible only for numerical values)
  - “Graduated”: in the graphic representation the dimension depends on the value to represent (it is possible only for numerical values)
- the origin of the value to represent:
  - an attribute of the card
  - a value returning from a specific SQL function predefined in the database
- the layer (corresponding to the geograhical attribute) where you have to work

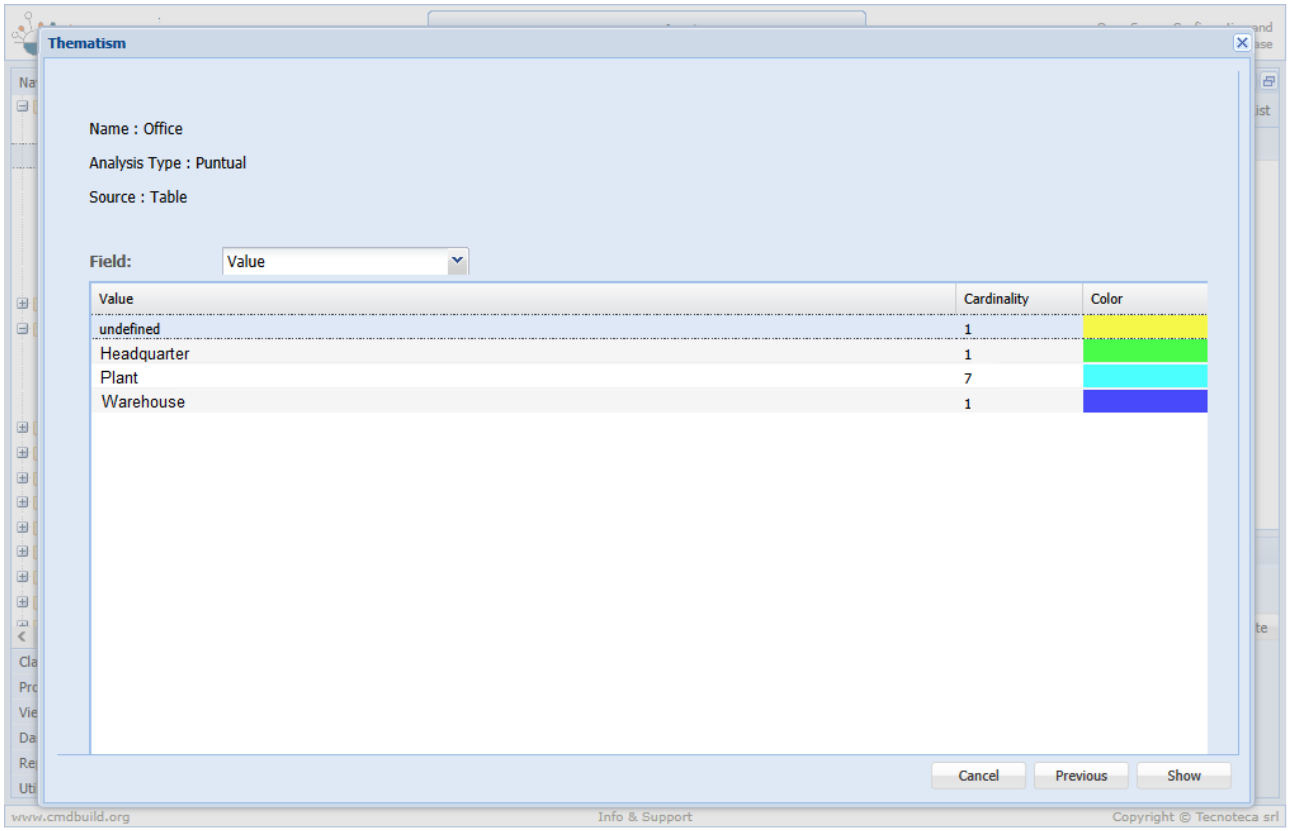
Configuration of thematic map - step 2:



You are required to specify:

- the name of the attribute of the card where you want to set the thematic map (otherwise the name of the SQL function)
- setting mode

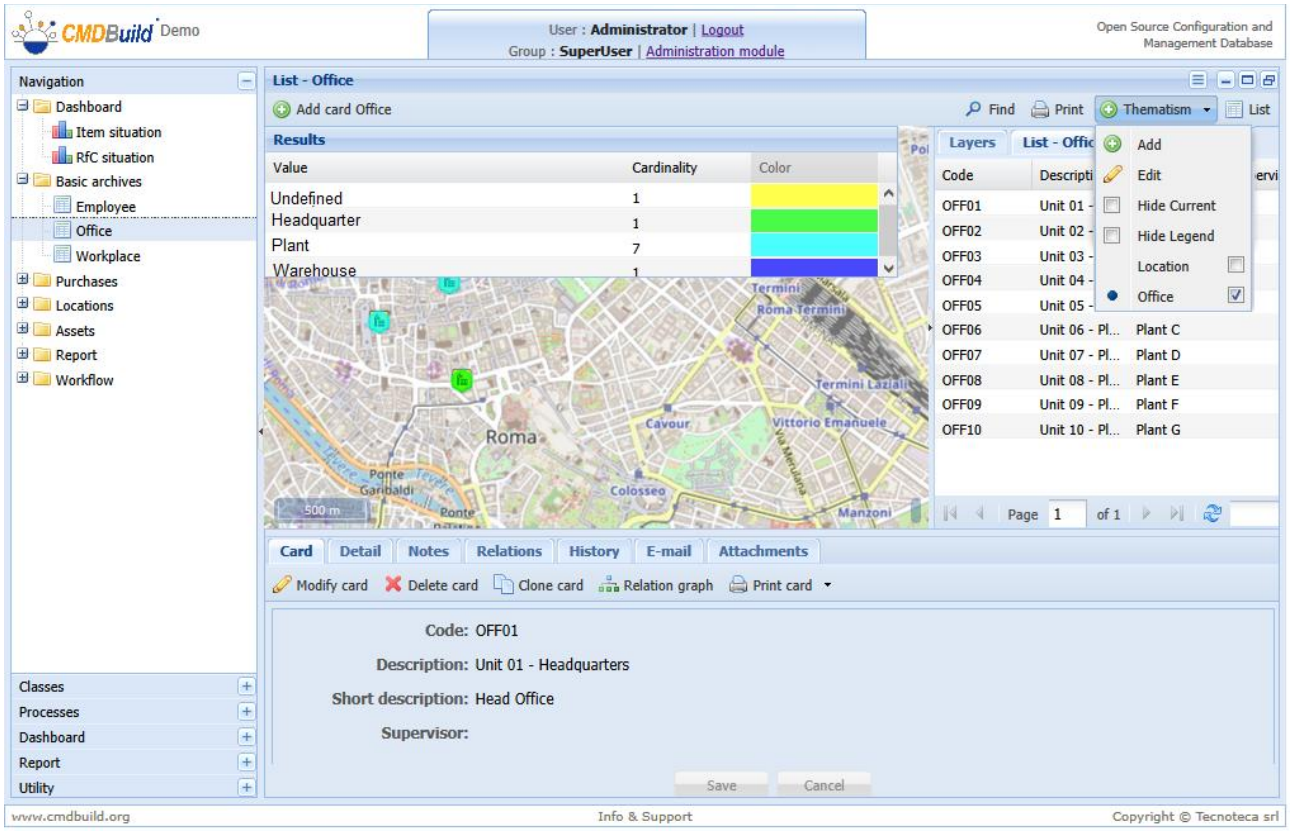
Configuration of thematic map - step 3:



The system shows the various values acquired by the attribute of the thematic map, the related size and the colour chosen by the system for the graphic representation.

The choice of colours can be edited by the user.

Configuration of thematic - final result:



With the next versions of CMDBuild you will be able to save those thematic maps that you want to use more often.

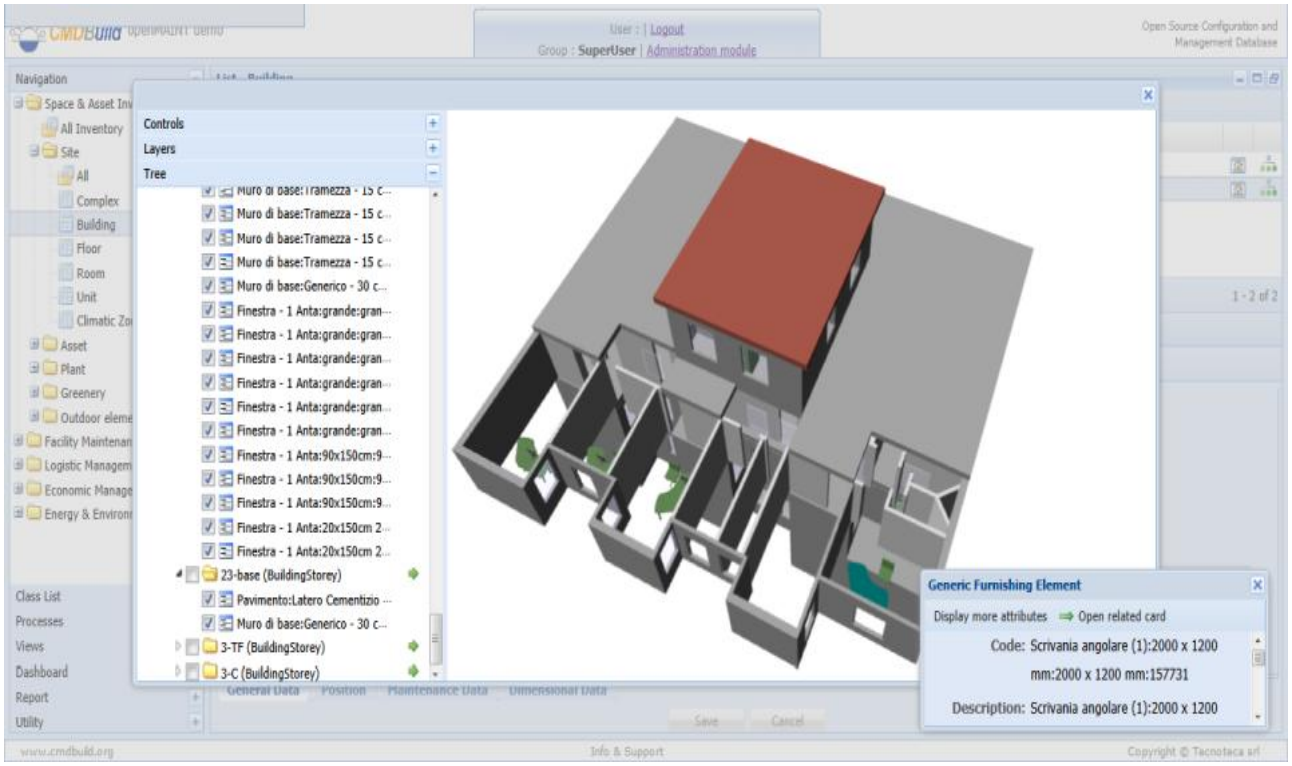
BIM viewer

The visible IFC models should be imported in advance into CMDBuild (or into its dedicated BIMserver repository), through its proper function available in the Administration Module.

The IFC files include entities and relations of the represented model, starting from a root class (e.g. Building)

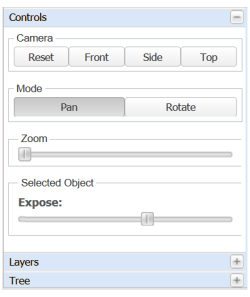
Such root class is recognized in the UI of CMDBuild. In the card list it is supported by a special icon that starts the viewer.

Once it starts, the 3D viewer will show you a pop-up window like the following one.

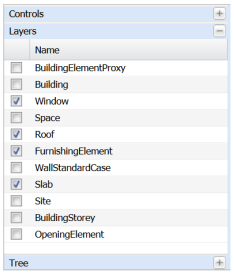


The functions available in the 3D viewer of BIM are subdivided into the three headings of the accordion menu on the left:

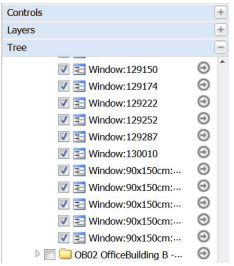
- various controls described in the following table



- list of layers that include the elements of the model, with the possibility of showing / hiding each of them

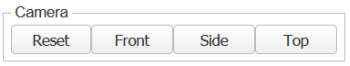


- hierarchical tree of each element of the model, with the possibility of showing / hiding each of them and moving in the card of the element closing the viewer window



The detail functions available in the heading "Controls" (first heading of the previous table) include:

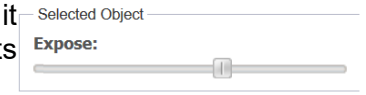
- Camera:
  - Reset: restore the initial checkpoint
  - Front: show the model from the front checkpoint
  - Side: show the model from the side checkpoint
  - Top: show the model from the top checkpoint



- Mode
  - Pan: it allows the movement of the model
  - Rotate: it allows the rotation of the model

- Zoom: it zooms the model

- Expose: by selecting a building floor, you can extract it horizontally from the building body and efficiently view its features and its elements



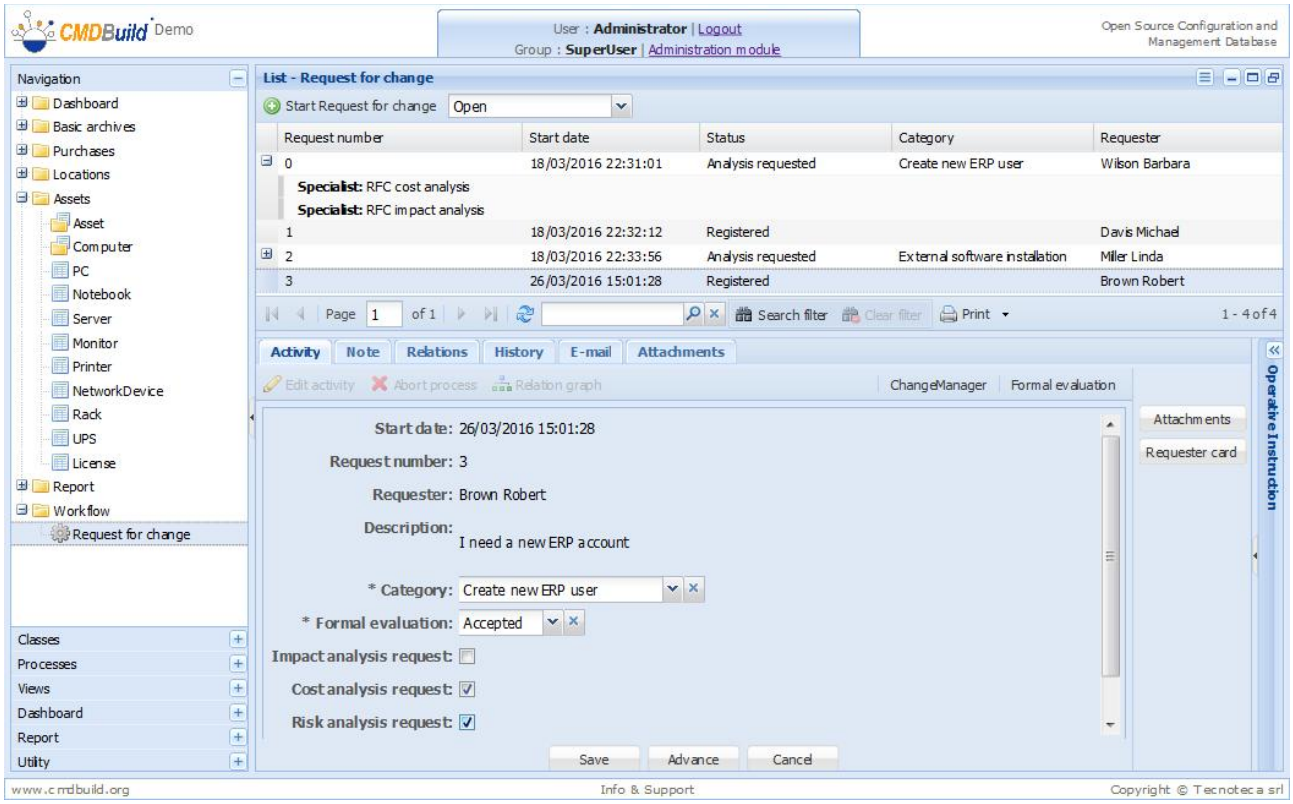
Workflow cards

CMDBuild workflow user interface provides, for all kinds of workflow:

- list of open / closed process instances (depending on the value selected in the combo)
- process details, in both read and write
- buttons to open sub-cards of the current workflow step to execute context-dependant operations (view, create or edit data cards, create relations, select related cards, upload attachments, etc.)
- a panel to display instructions for current workflow step (button on the right)

We provide a specific manual (Workflow Manual) dedicated to the configuration and use of the workflow system. In this chapter there are only some general information and screenshots related to the directions for use through the Management Module

This is a sample of form for a step that is part of a RfC management workflow.



Just like the standard cards, workflow cards provide attributes, notes, relations and history.

It's possible to interact with the CMDBuild workflow using simplified interfaces that might be easier to use for non-technical users. They can be used to open a new support ticket or to subscribe IT services or to validate any activities in authorisation workflows.

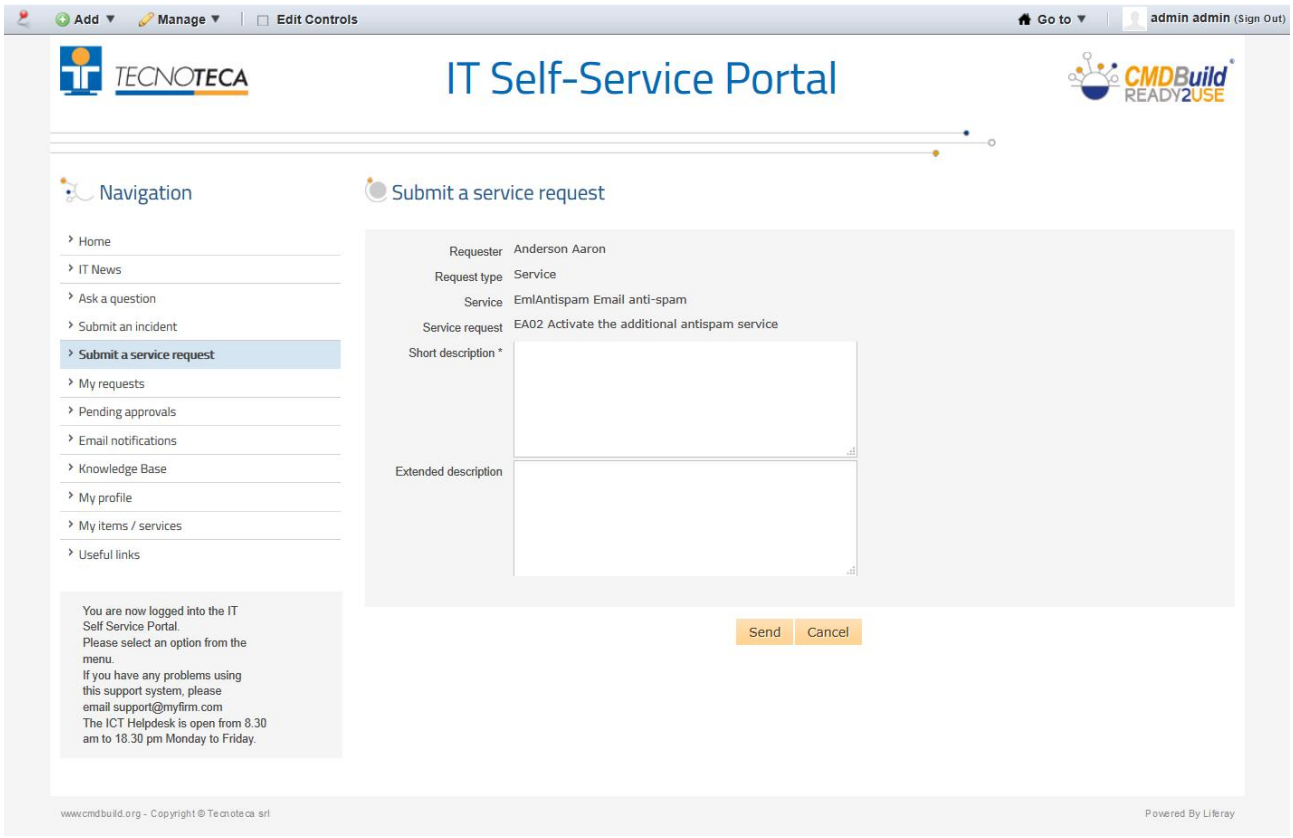
Talking of this, CMDBuild provide a tool for the implementation of external interfaces called CMDBuild GUI Framework, which interacts with CMDBuild through the webservice REST.

It allows an (almost) unlimited freedom when projecting the graphic layout, defined through an XML

descriptor and with the possibility of intervening on the CSS, and it allows you to use it in portals based on different technologies, since it is developed in javascript / Jquery environment.

On the other side, the GUI Framework configuration needs a javascript code customisation, that is simplified thanks to predefined functions (communication, authentication logics, etc.) and to native graphic solutions (forms, grids, upload buttons and other widgets)

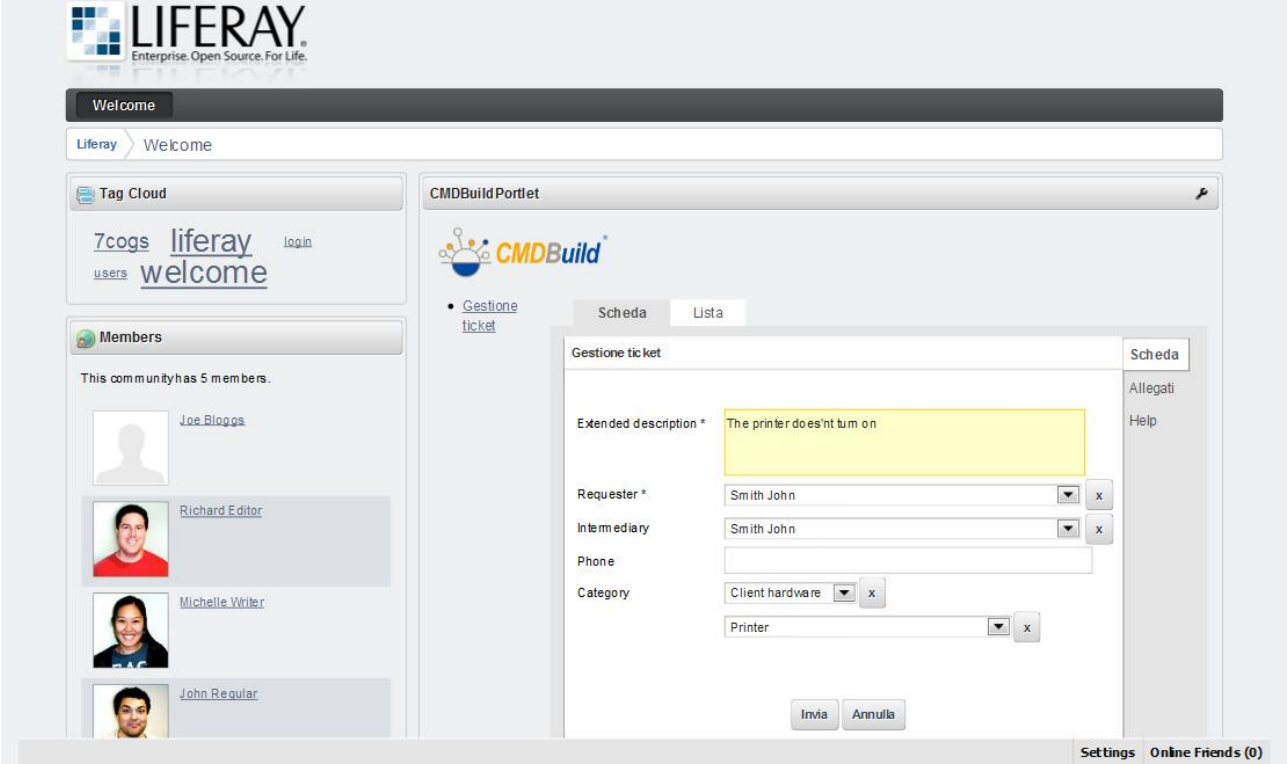
Sample of interface for the advancement of a process.



As an alternative, CMDBuild provides a standard solution to issue some features in the form of Portlet (standard JSR 268) in the open source Liferay portal.

The portlet is able to access to CMDBuild through the SOAP webservice, adapting to the configuration of the related instance (menu, authorizations, data card structure, process flows, reports).

The portlet includes the starting and progressing of a process, with consultation of active instances or completed instances, of data card management, (input, edit, cancellation) and report execution .



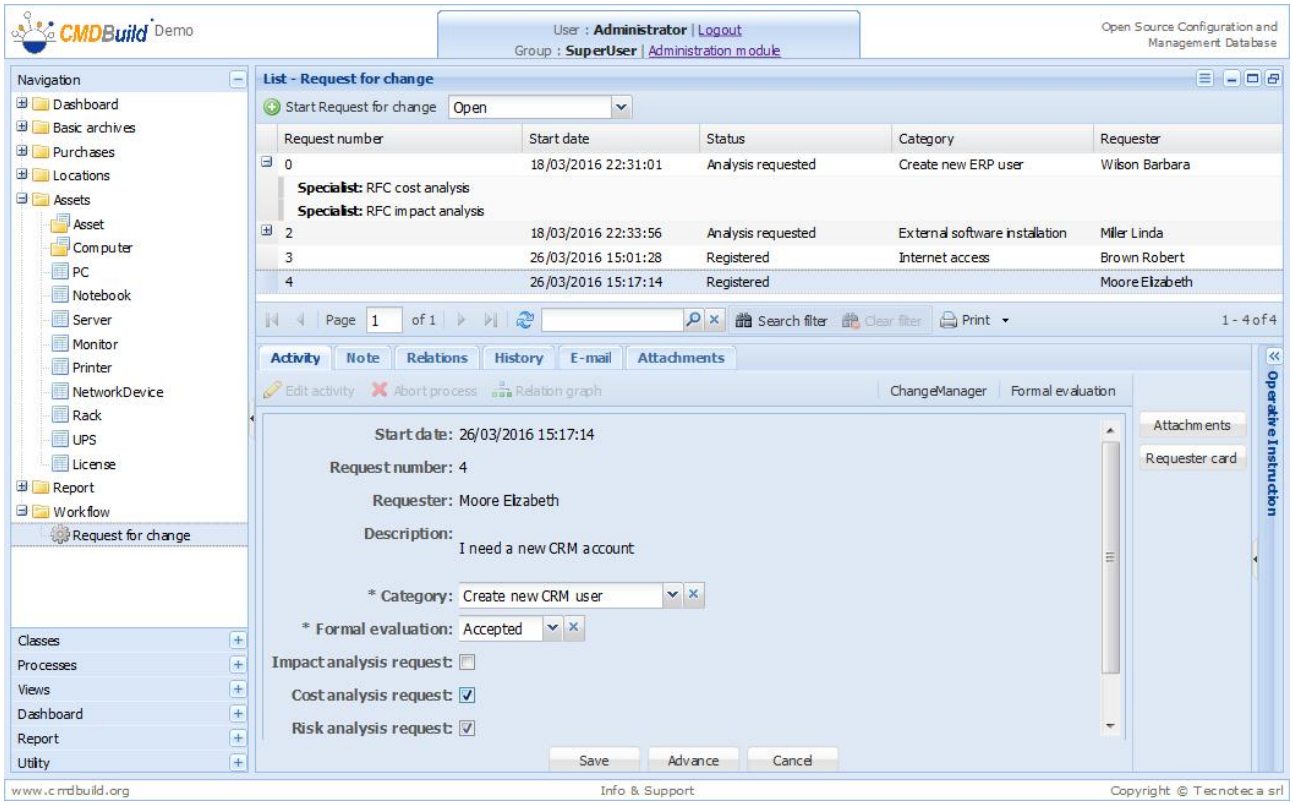
This solution is very advantageous because it can adapt to the related CMDBuild instance without developing a code for the management of the interaction between two environments.

Its limit is its "self adaptability" itself that does not allow any kind of customisation.

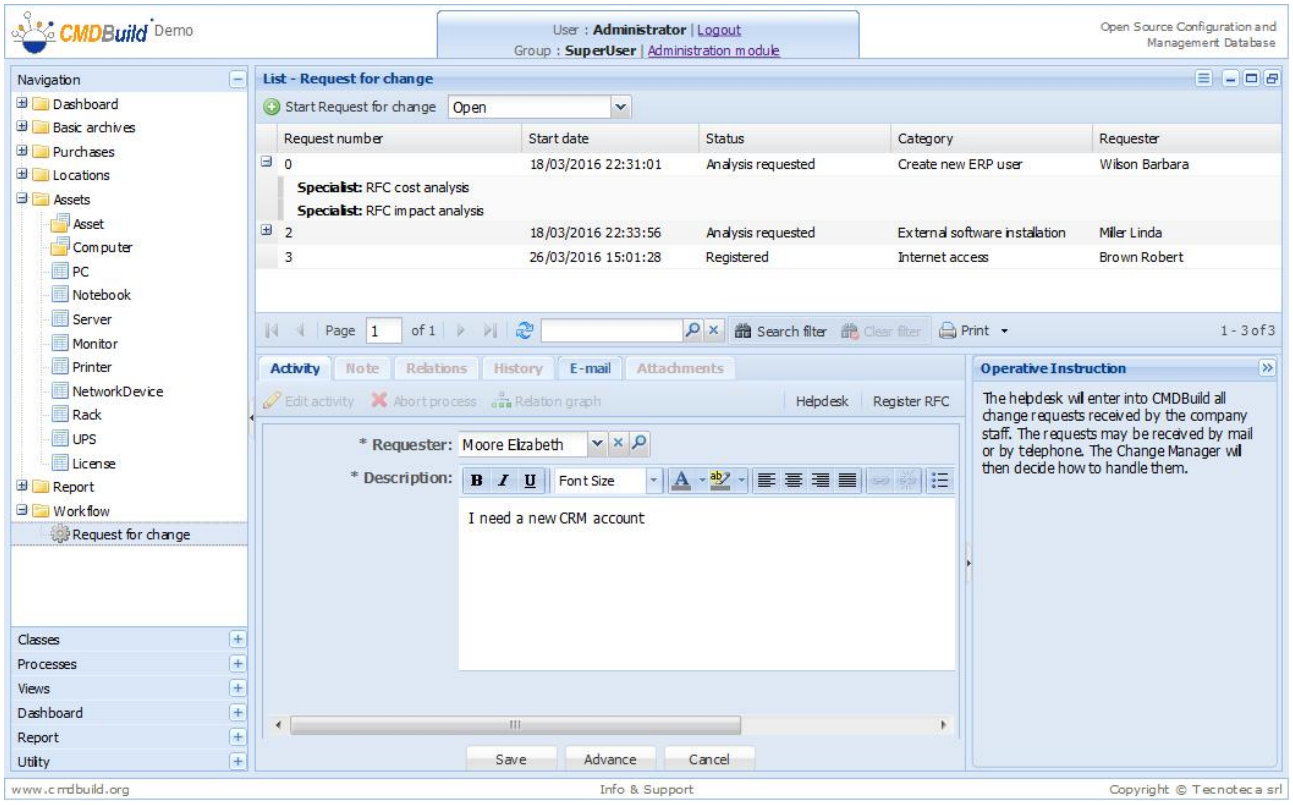
Card TAB

By selecting the function of RfC process management, the system shows the RfC as open (or in the selected status chosen in the upper list: open, suspended, complete, aborted, all).

Through the button “Start Request for Change” the Helpdesk can register a new request.



Prior to fill in the form, the operator can refer to the operative instructions associable with every user activity (by working in the XPDL file which describes the process flow).



Widget

Widgets configured using the Administration Module can be used to perform specific functions useful for the current user's activity.

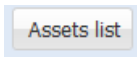
These widgets can be classified as follows:

- Create or modify card: create or modify a datacard in a specified class
- Manage relation: create, edit or link cards (create relations) to the main card
- Link card: select cards from a filtered list (the filter is specified using the CQL language), with a geographical extension to select dots and ploygons on the map
- Webservice: select a record from a list by querying an external webservice (e.g. databases used in the workflow)
- Email management (with parameter substitution, also obtained with CQL query)
- Attachment: attachment management
- Note: notes management with WYSIWYG editor
- Create report: run reports (the report may be attached to the process and sent via mail)
- Edit grid: compiling a table with several rows (data cards) and columns (data card attributes), with the possibility of adding or deleting rows or importing them from CSV files
- Start workflow: starting another selected static workflow (according to the definition of workflow) or a dynamic selected workflow (during the start of the workflow)
- Navigation tree: it allows to select one or more datacards through an interface based on a preconfigured navigation tree (subset of the domain graph)

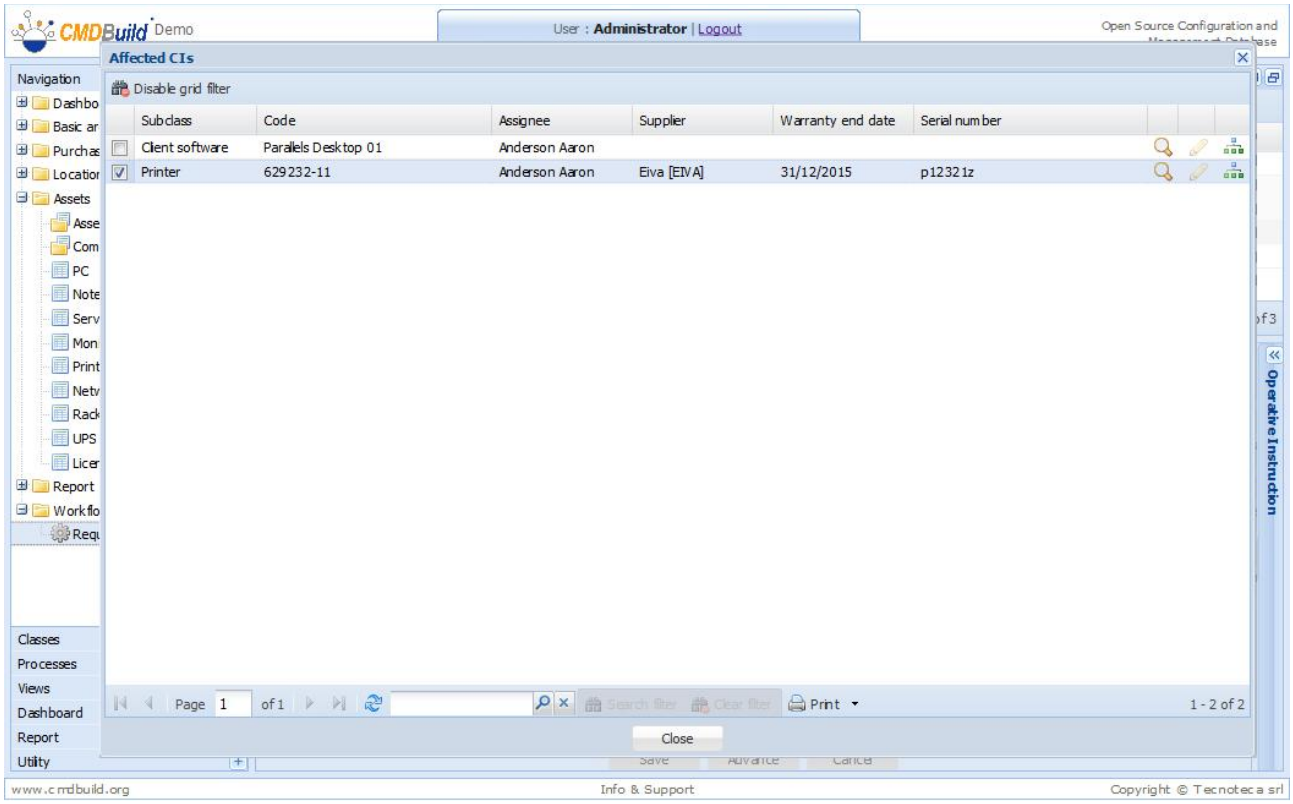
Example 1: Link card

The widget allows in this example to select one or more cards from a filtered list of assets (located in the predefined office).

In this example, the workflow provides access to the workspace using the button:

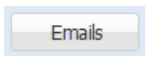


The work area in the Options TAB has the following interface (the select mode, single or multiple, can be modified):

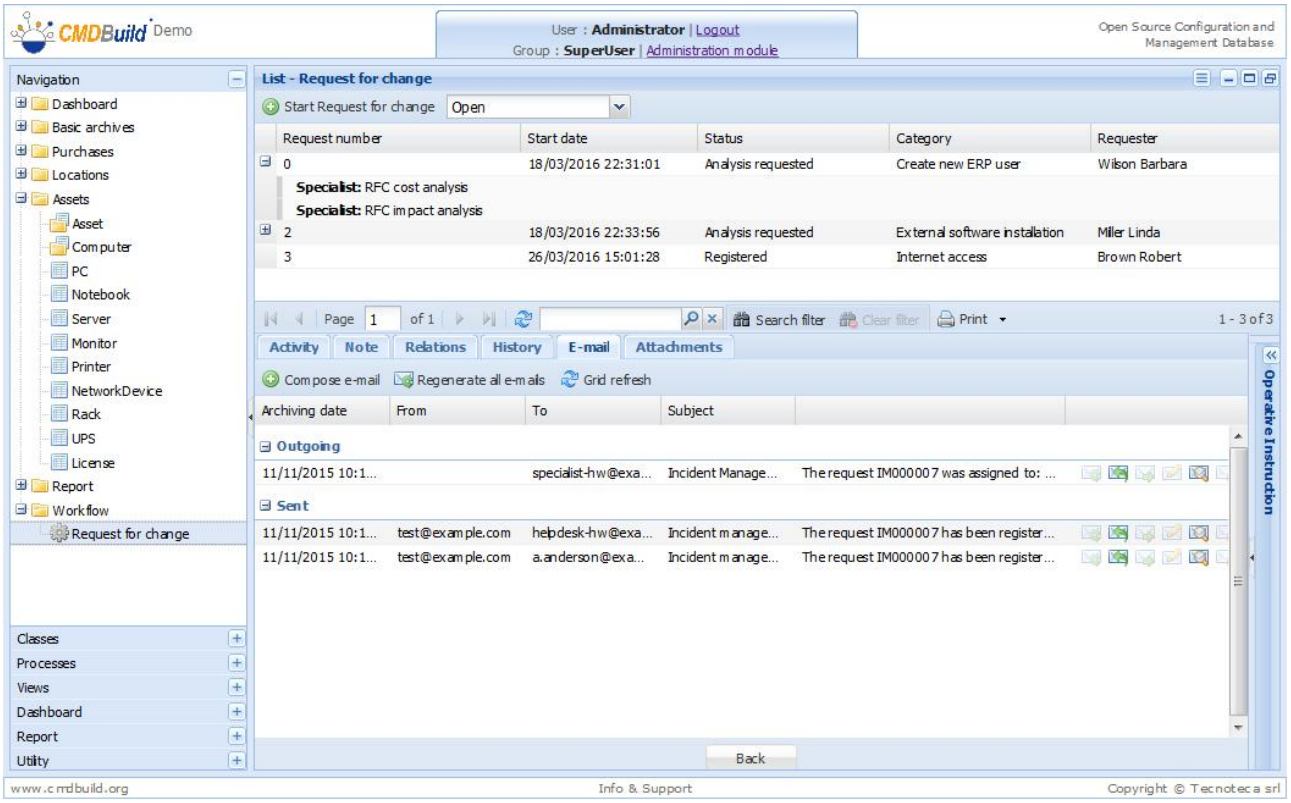


Example 2: Manage email

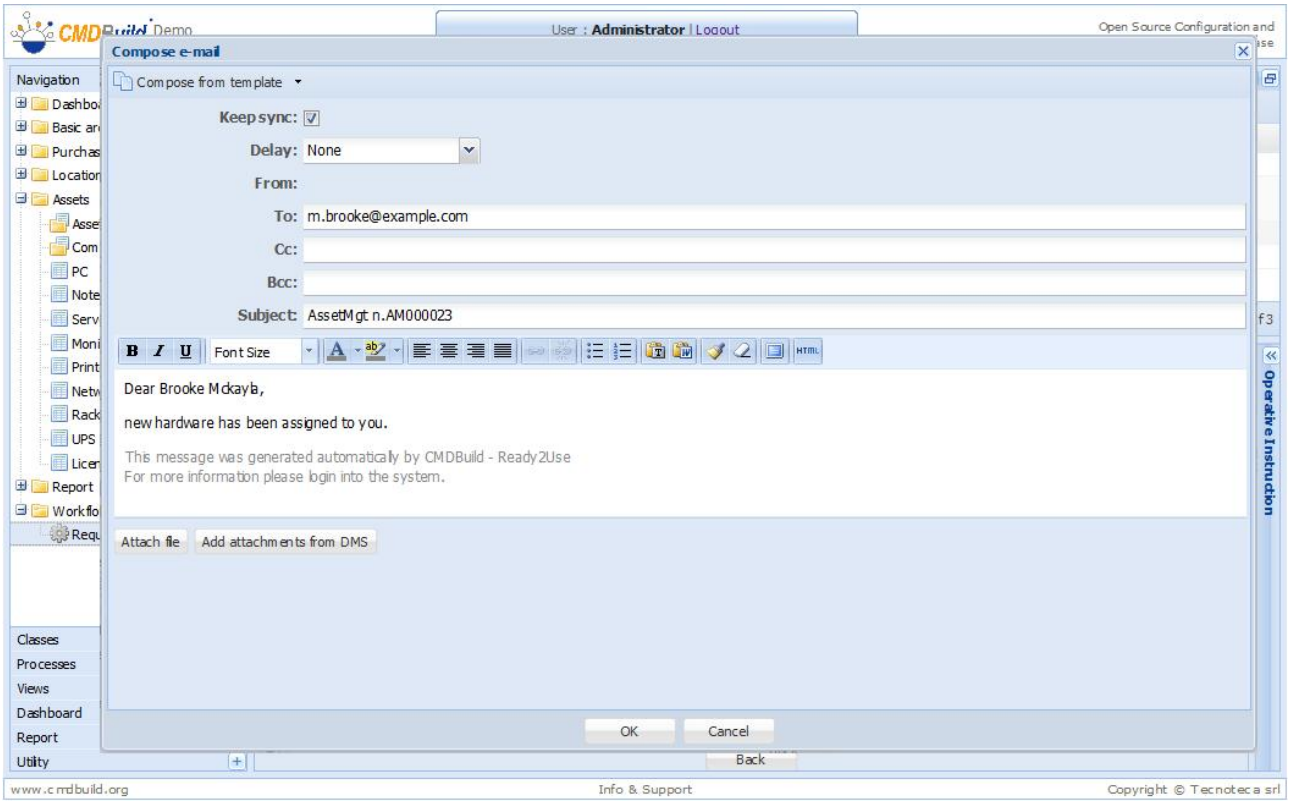
In this example, the workflow provides access to the workspace using the button:



The work area in the Option TAB has the following interface:



It's possible to create automatically emails using a preset template, fill it out manually, or incorporate free text in an email automatically generated.

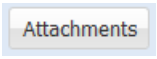


When you are writing an e-mail, you can attach documents by uploading them both from your own file system and from the ones filed in the document system integrated in CMDBuild.

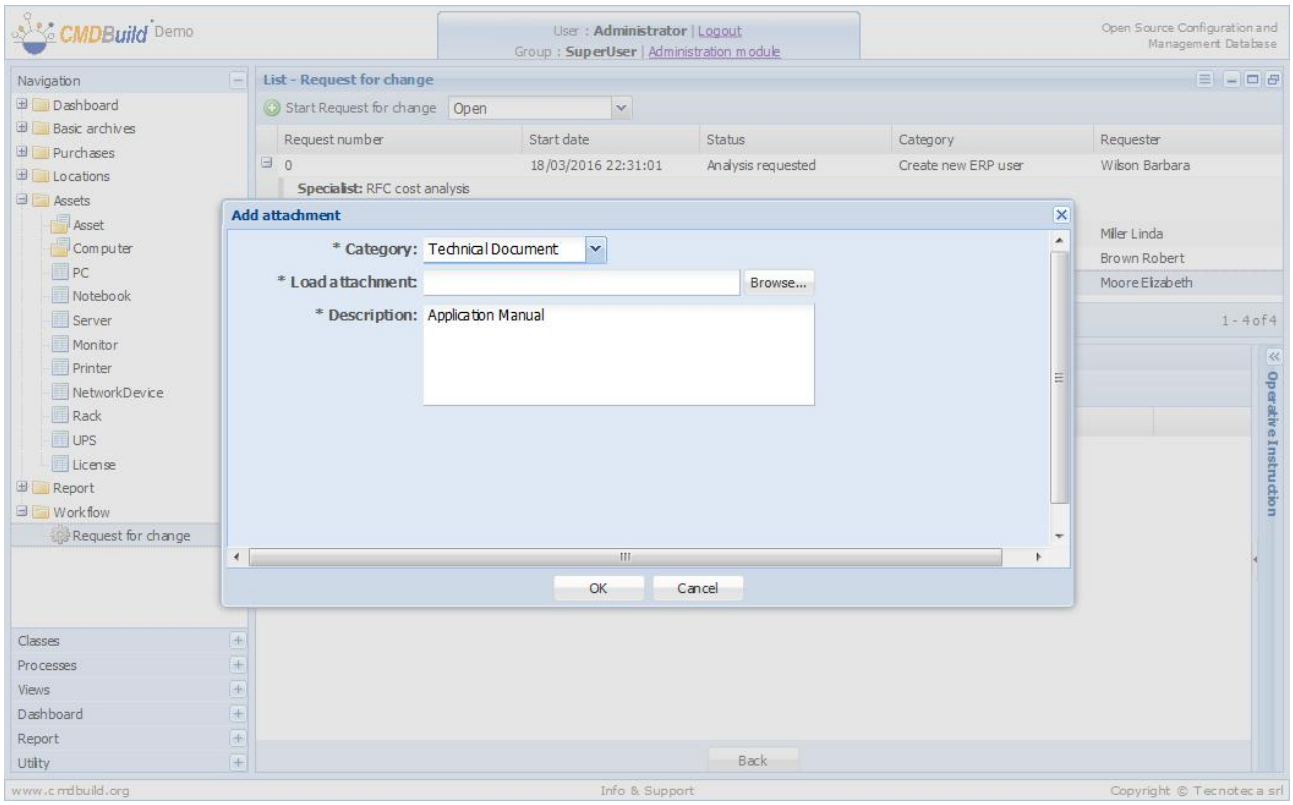
The fields “To” and “CC” can include one or more e-mail addresses; in case of several addresses the separator should be “,”.

Example 3: Attachment management

In this example, the workflow provides access to the workspace using the button:



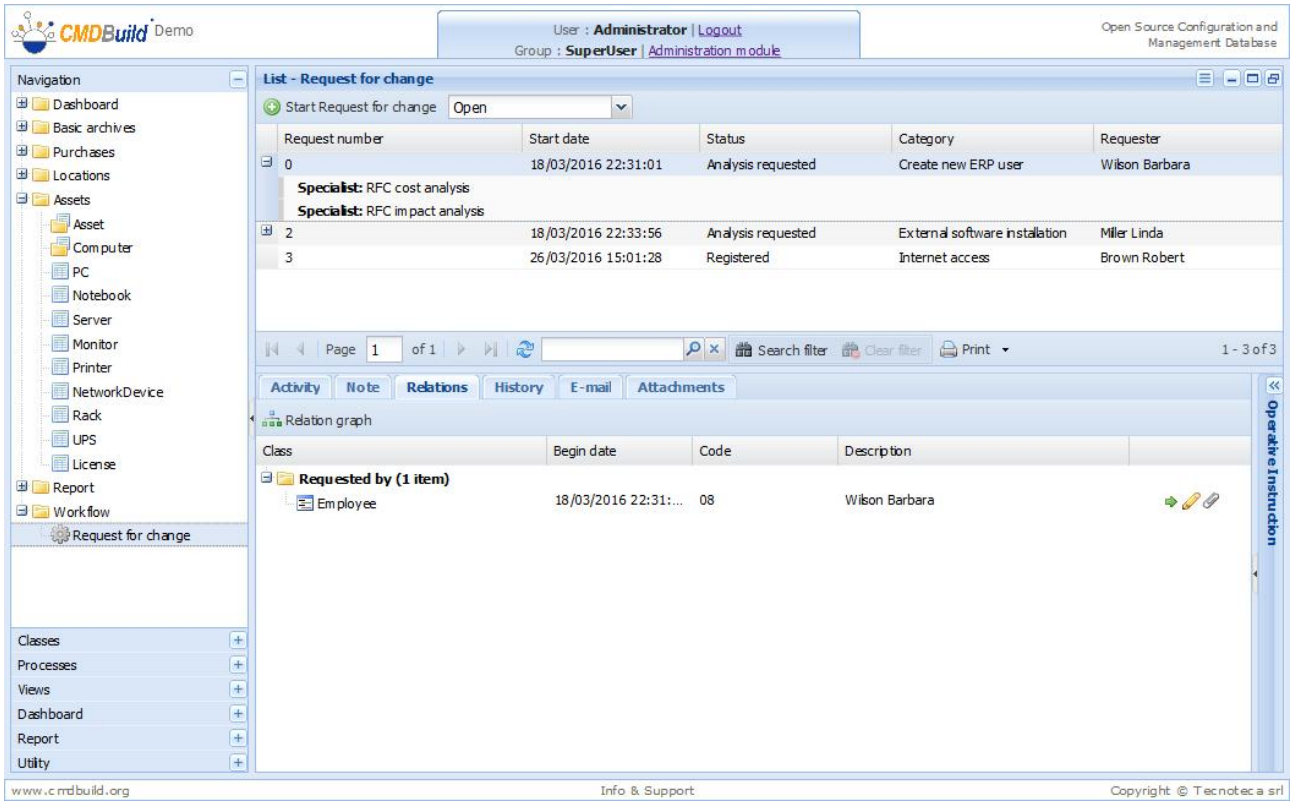
The work area in the Option TAB has the following interface:



Relations TAB

About the processes cards, you can refer the relations created during the activity progress.

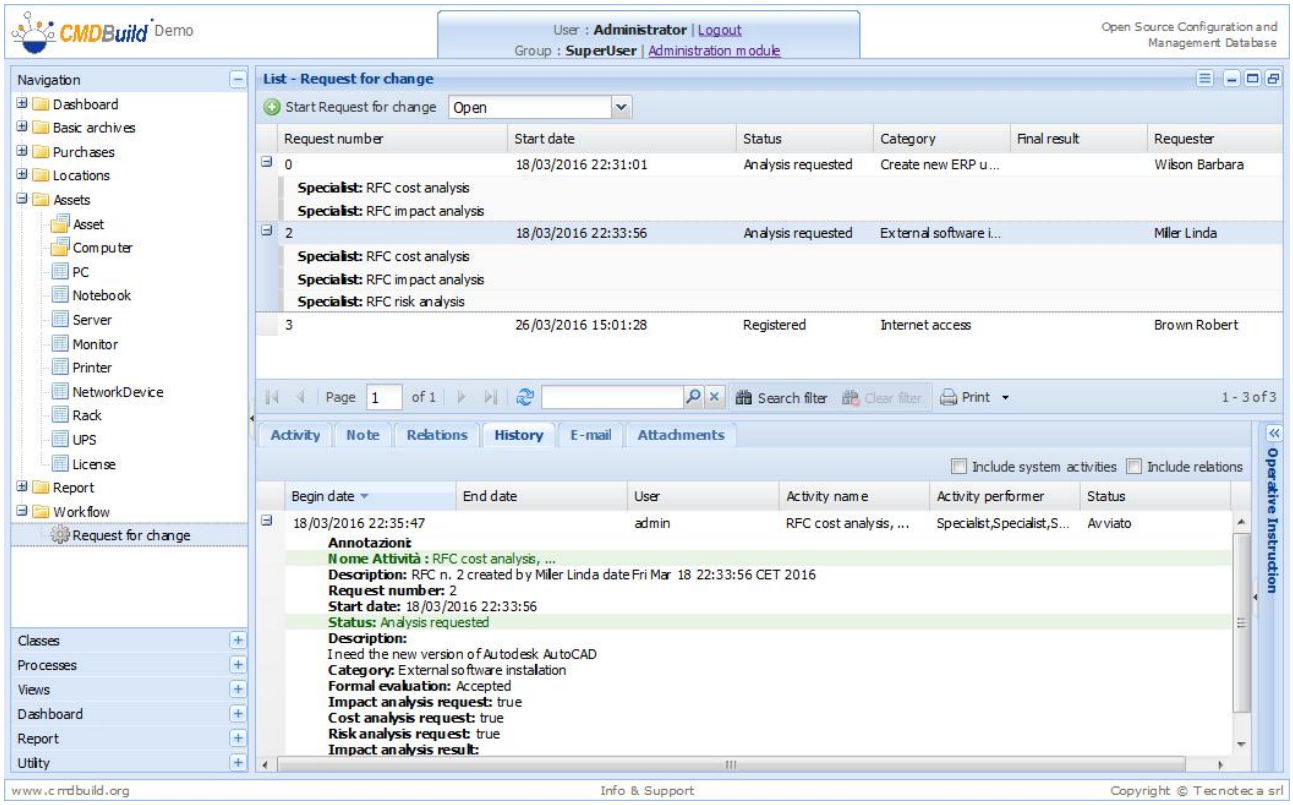
The relations can be manually created from the user interface or direct from the system through automatisms based on APIs configured in the process.



History TAB

Referring to the History TAB you can know the complete sequence of each single progress activity, their users, beginning and ending date.

Such information can be used through report and dashboard to calculate and provide experience indexes (KPI) of the service effectiveness (SLA control).

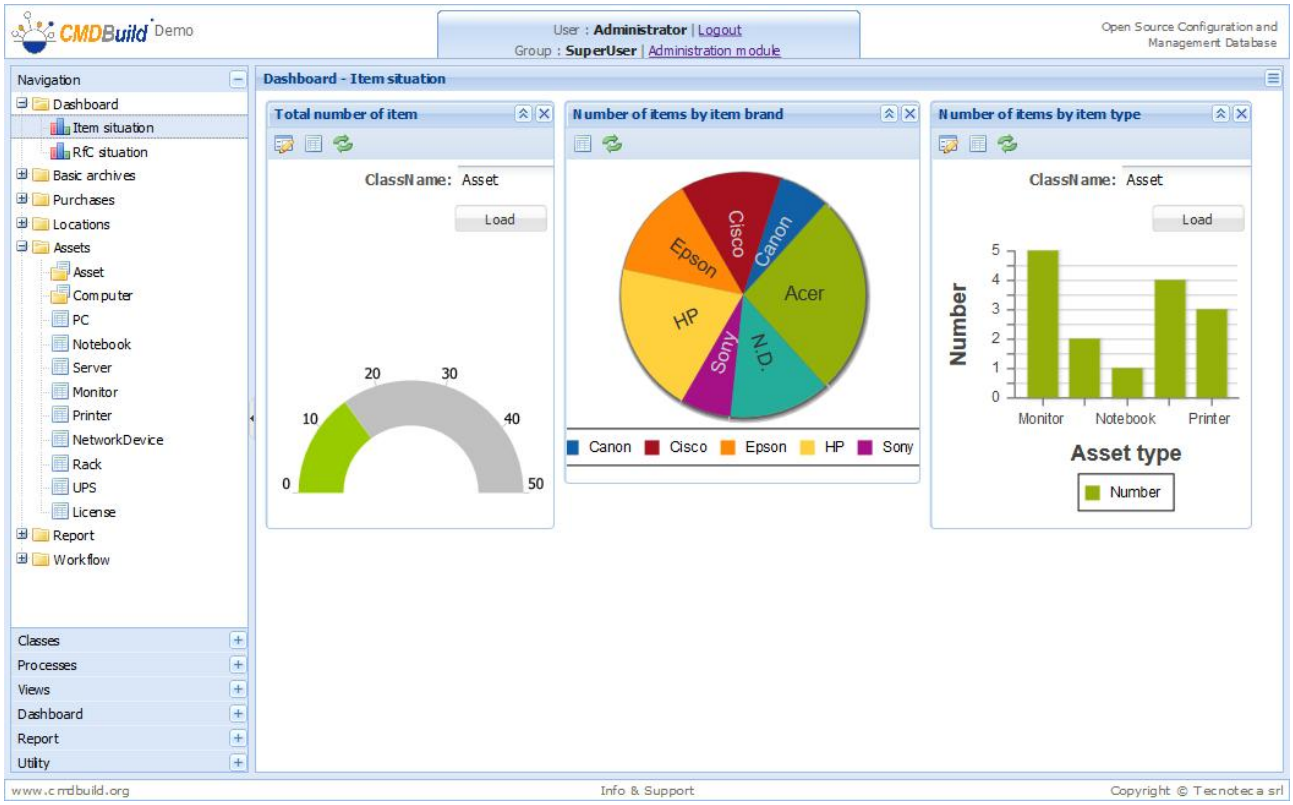


Dashboard

CMDBuild includes the possibility of configuring one or more "dashboard" pages; each of them can be addressed to a different typology of aspects which should be controlled: asset situation, service desk performances, cost allocation, etc.

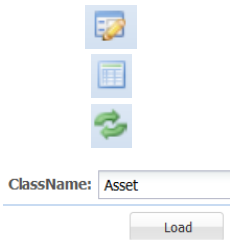
Every dashboard is made up of a number of charts with different typologies: pie, bar, line, gauge chart.

Like all CMDBuild components, also the dashboards are configured in the Administration Module and can be refered in the Management Module, both with the specific Dashboard heading of the accordion menu and in the Navigation Menu.

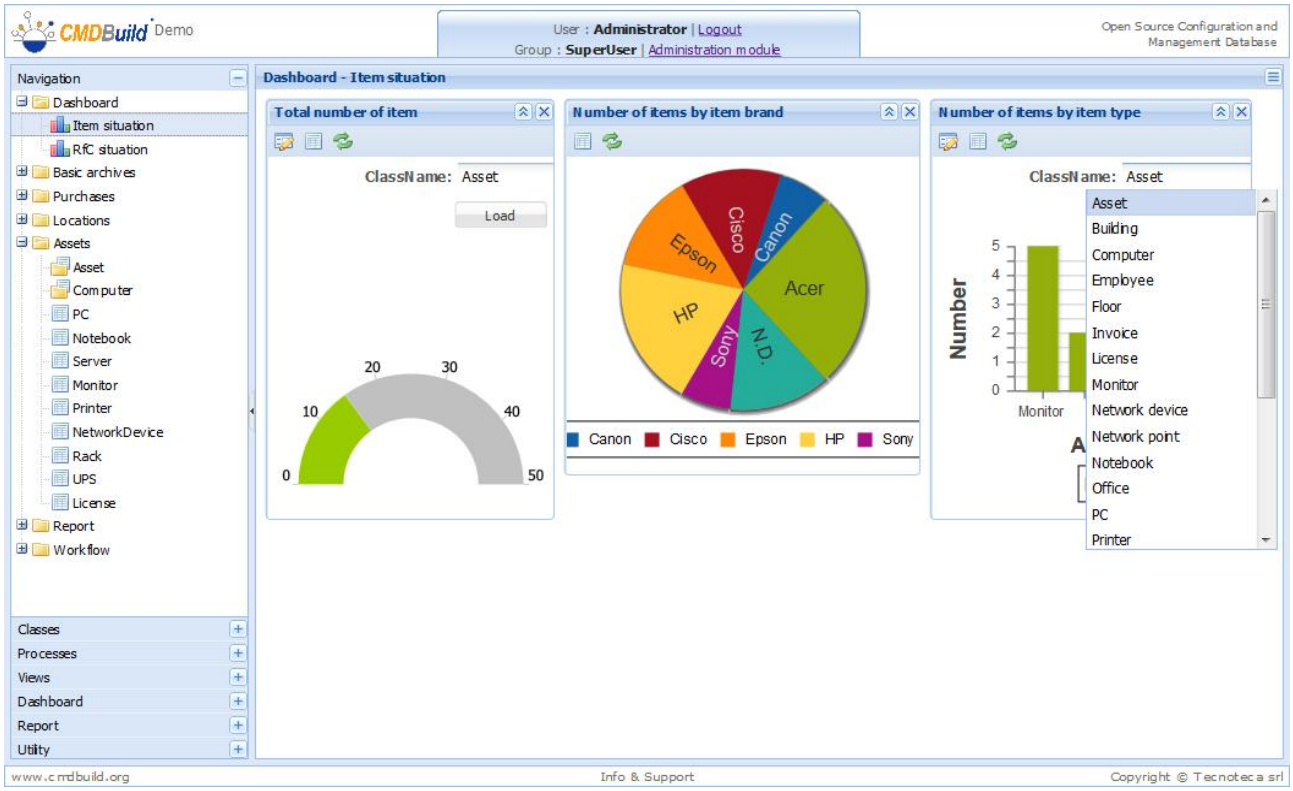


For every dashboard chart you can perform the following operations:

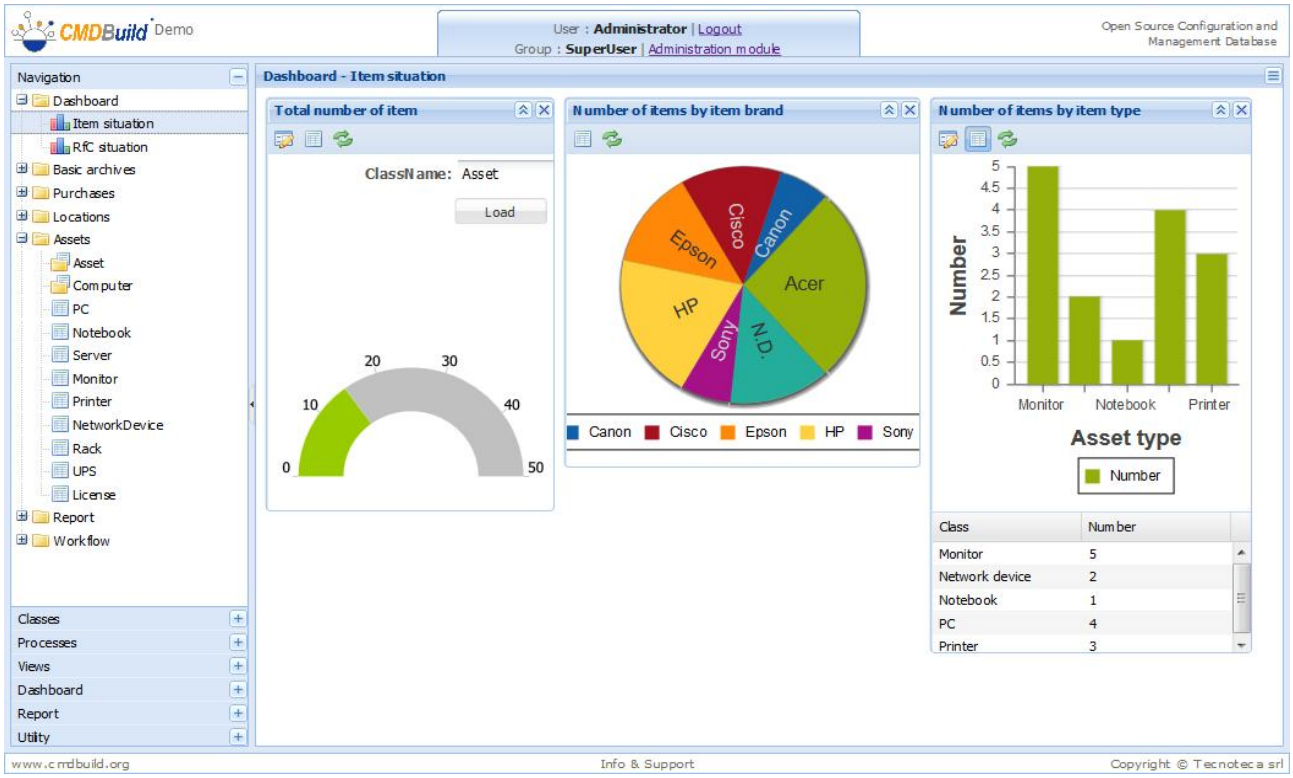
- display or hide the controls to edit the possible provided parameters
- display the complete list of the values for the chart calculation
- update the chart display
- if required, edit the analysis parameters, and update the chart display



In the following sample you can see how you can edit the valorization of the provided parameter in the bar chart, in this case the analysis class.

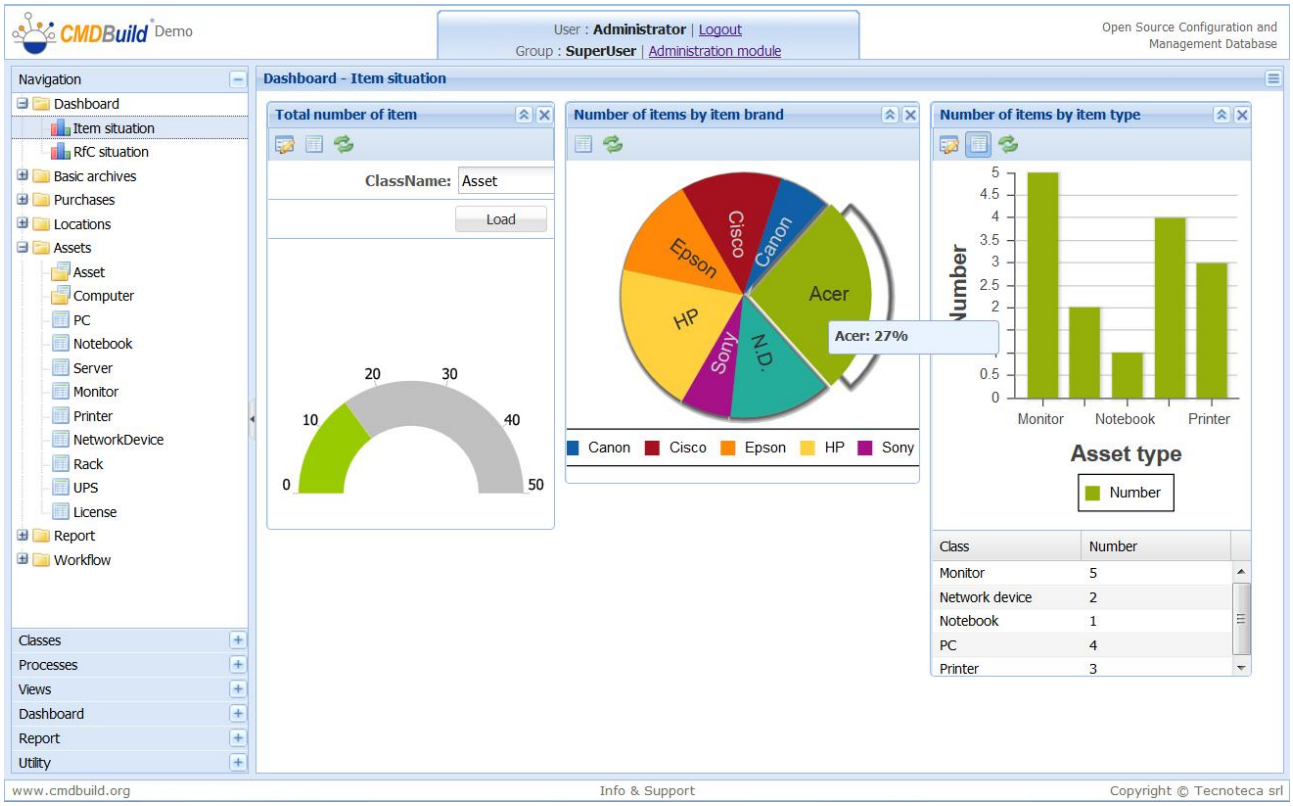


In the following sample you can see how the value list for the bar chart calculation can be demanded and shown.



The dashboards are performed through proper components of the Ext JS library, which the whole CMDBuild user interface is implemented with, and include some interaction mechanisms for the data reference.

In the following sample, if you place the mouse on a pie chart area, the area will be highlighted and the corresponding numeric value will be presented.



Report

CMDBuild includes and uses a powerful report engine (JasperReport) able to create dynamic reports that are designed using an external visual editor (iReport) and then imported using the Administration Module.

The report engine supports these formats:

- PDF
- CSV, used to import data into spreadsheets
- ODT, used to import data into a word processor

Report types and features

IReport editor has the following features:

- text formatting options (font, text alignment, space, colour, etc.)
- standard elements definition (header, footer, column headings, summary, etc.)
- data grouping
- expressions evaluation
- computed fields
- advanced subreports management
- barcodes support
- geometric elements (lines, rectangles)
- images and charts (pie, bar, Gantt, etc.)

Using these features it's possible to create and import in CMDBuild:

- tabular reports with groups and totals (multi-level option)
- reports with images and logos
- reports with statistics and graphs
- labels with barcodes

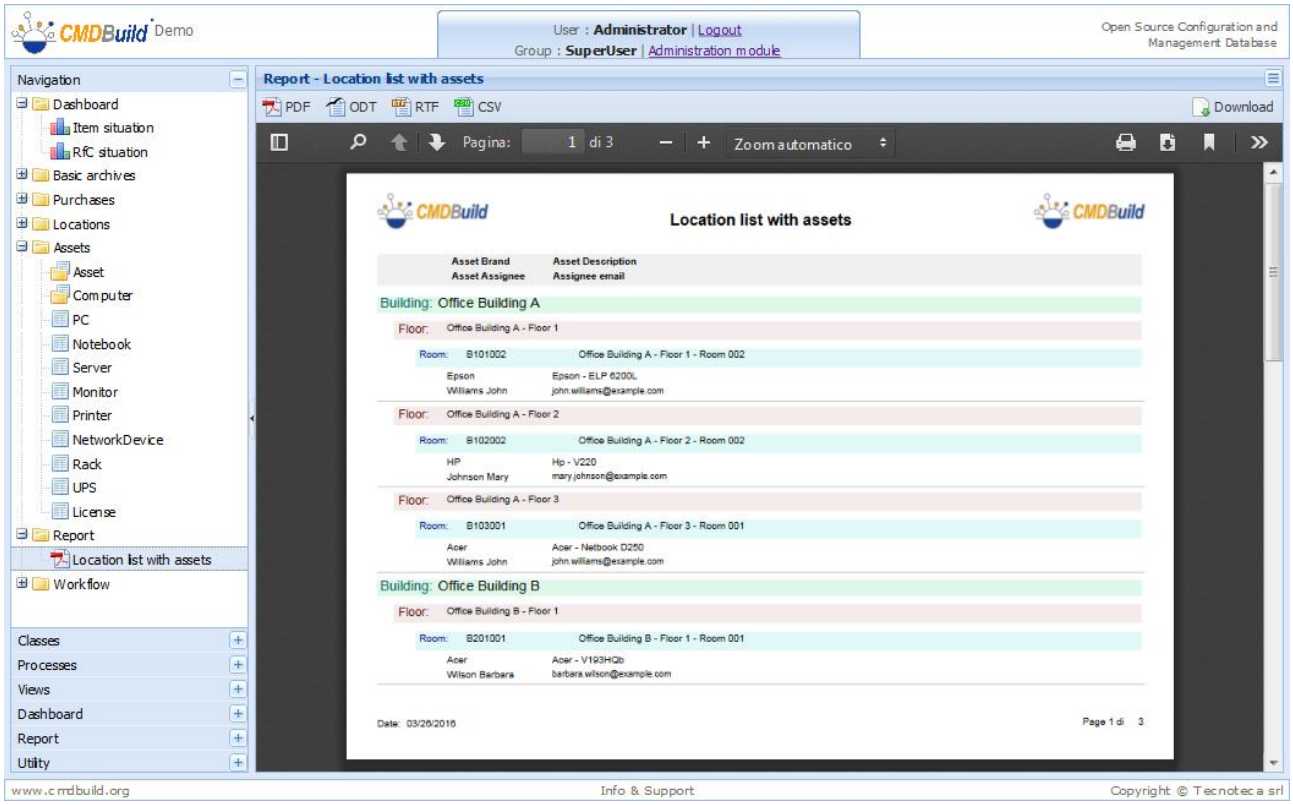
Custom report parameters can be defined and then required at rendering time Before rendering, CMDBuild will present a popup with the required report parameters (i.e. computer name, date range, etc)

Lookup and Reference parameters will be displayed automatically as a dropdown list with predefined values.

Reports imported into CMDBuild can be executed:

- selecting the report from the navigation menu (if available) in the top-left column
- accessing the list of available reports (for the current user) by choosing the "Report" menu in the left column

Screenshot of report selection / execution


CMDBuild Demo
User : Administrator | Logout
Group : SuperUser | Administration module
Open Source Configuration and Management Database
Navigation
Dashboard
Item situation
RfC situation
Basic archives
Purchases
Locations
Assets
Asset
Computer
PC
Notebook
Server
Monitor
Printer
NetworkDevice
Rack
UPS
License
Report
Location list with assets
Workflow
Classes
Processes
Views
Dashboard
Report
Utility
Report - Location list with assets
PDF ODT RTF CSV
Download
Pagina: 1 di 3
Zoom automatico
CMDBuild
Location list with assets
Asset Brand
Asset Description
Asset Assignee
Assignee email
Building: Office Building A
Floor: Office Building A - Floor 1
Room: B101002 Office Building A - Floor 1 - Room 002
Epson Epson - ELP 6200L
Williams John john.williams@example.com
Floor: Office Building A - Floor 2
Room: B102002 Office Building A - Floor 2 - Room 002
HP Hp - V220
Johnson Mary mary.johnson@example.com
Floor: Office Building A - Floor 3
Room: B103001 Office Building A - Floor 3 - Room 001
Acer Acer - Netbook D250
Williams John john.williams@example.com
Building: Office Building B
Floor: Office Building B - Floor 1
Room: B201001 Office Building B - Floor 1 - Room 001
Acer Acer - V193HQb
Wilson Barbara barbara.wilson@example.com
Date: 03/26/2016
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Info & Support
Copyright © Tecnoteca srl

Utility features

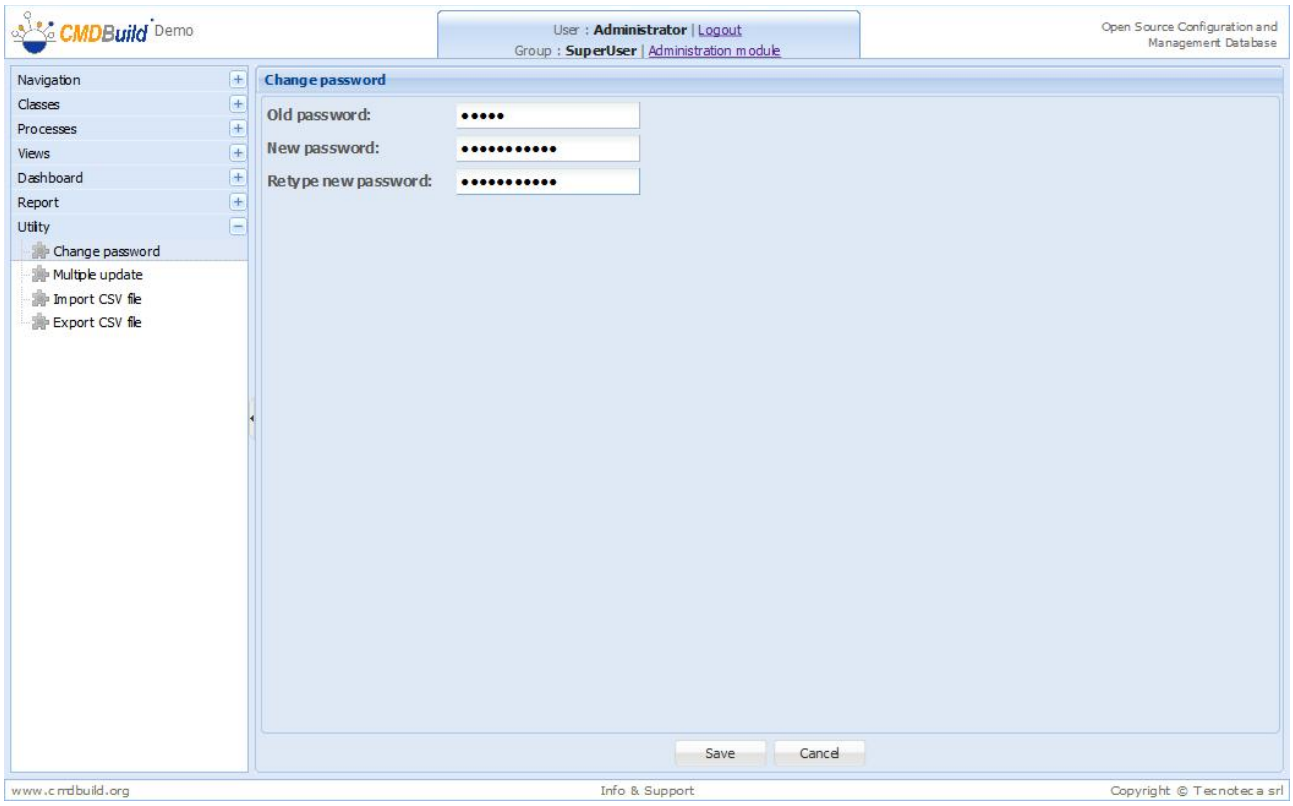
Some of the utility features are:

- password change
- massive card data editing
- CSV export
- CSV import

Password change

This operation allows the user to set a new password; the user has to insert the old password to confirm the change.

User must insert the new password twice (to avoid typing errors).



NOTE:

The system administrator can set certain criteria to manage the password, by editing the parameters available in the file:

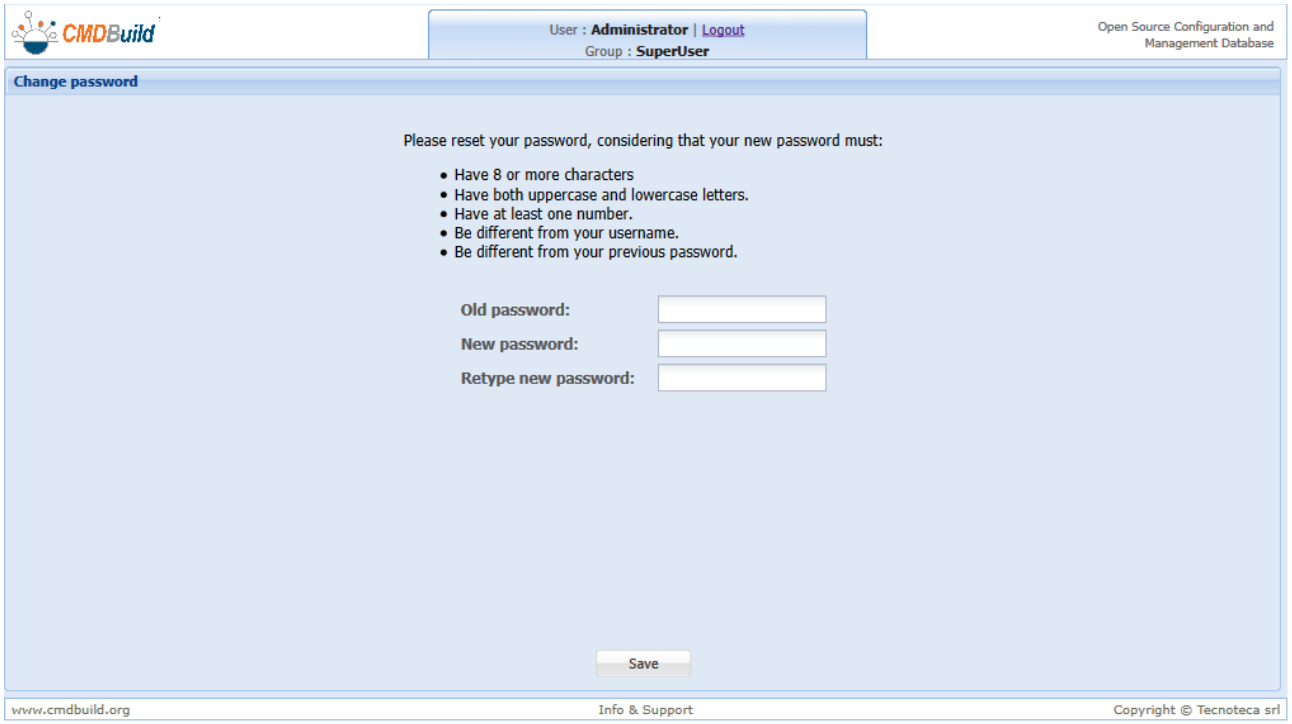
${tomcat}/webapps/cmdbuild/WEB-INF/conf/password.conf

In particular the administrator will be able to specify:

- the activation of the following criteria (parameter org.cmdbuild.config.password.enable-password-change-management=true in the file indicated above, if “false” there won't be any password management)
- the expire date of the password (for example org.cmdbuild.config.password.max-password-age-days=90)
- the number of forewarning days, which will produce a notification via email (for example org.cmdbuild.config.password.forewarning-days=7)
- the form of password, for example:
  - minimum eight characters (org.cmdbuild.config.password.min-length=8)
  - at least one number (org.cmdbuild.config.password.require-digit=true)
  - at least one upper-case letter (org.cmdbuild.config.password.require-uppercase=true)
  - at least one lower-case letter (org.cmdbuild.config.password.require-lowercase=true)
  - different from the previous password (org.cmdbuild.config.password.differ-from-previous=true)
  - different from the username (org.cmdbuild.config.password.differ-from-username=true)

When the password has expired and you try to login after that, CMDBuild will readdress the user to a new page where a help message will appear (parameter org.cmdbuild.config.password.helper-message=’testo di help anche HTML’) and the user has to specify:

- the previous password
- the new password (twice), which has to be compatible with the criteria set by the system administrator (see above)



The system will then update the user account in the database with the new inserted password (encrypted with MD5 algorithm).

Massive card editing

This feature allows you to change the value of one or more attributes of a selected set of cards.

At first you have to select a class from the ones available in the top left menu.

Then you can create filters to select the cards you want to edit using both the quick filter or the advanced one (described on previous pages).

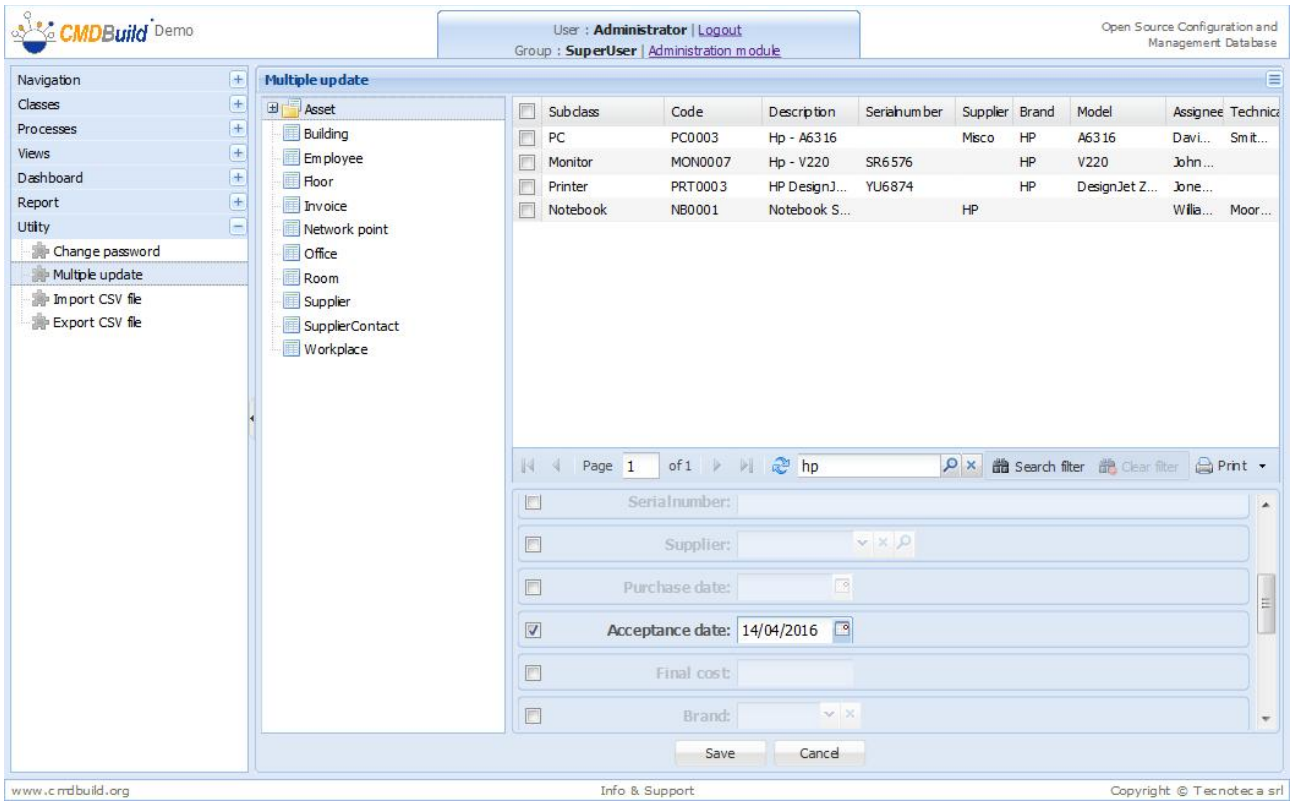
Next you can manually select the single cards to apply the change, or you may select all the cards in the list by clicking the checkbox at the top of the last column.

Once selected the cards, you have to select (checkbox) the attributes you want to change and insert the new value.

Finally, you have to confirm the operation by clicking the "Confirm" button.

Before performing the editing operation, the system shows the number of the cards that will be edited, demanding an acknowledgement or the cancellation of the operation.

In the next example we change all the cards with "HP" brand, setting the "Acceptance date" to 06/09/2011.



Import CSV data

The CSV (Comma Separated Value) file import is a useful feature that allows you to upload data to CMDBuild using a "wizard"; this is a fast way to upload a lot of cards into the application within few steps.

This operation is performed through the user interface, as shown below, and not by querying the database, because we want the application to control and validate data before insertion.

It is important to notice that the import operation always appends data, so imported cards are always added to the existing ones.

The import operation includes these steps.

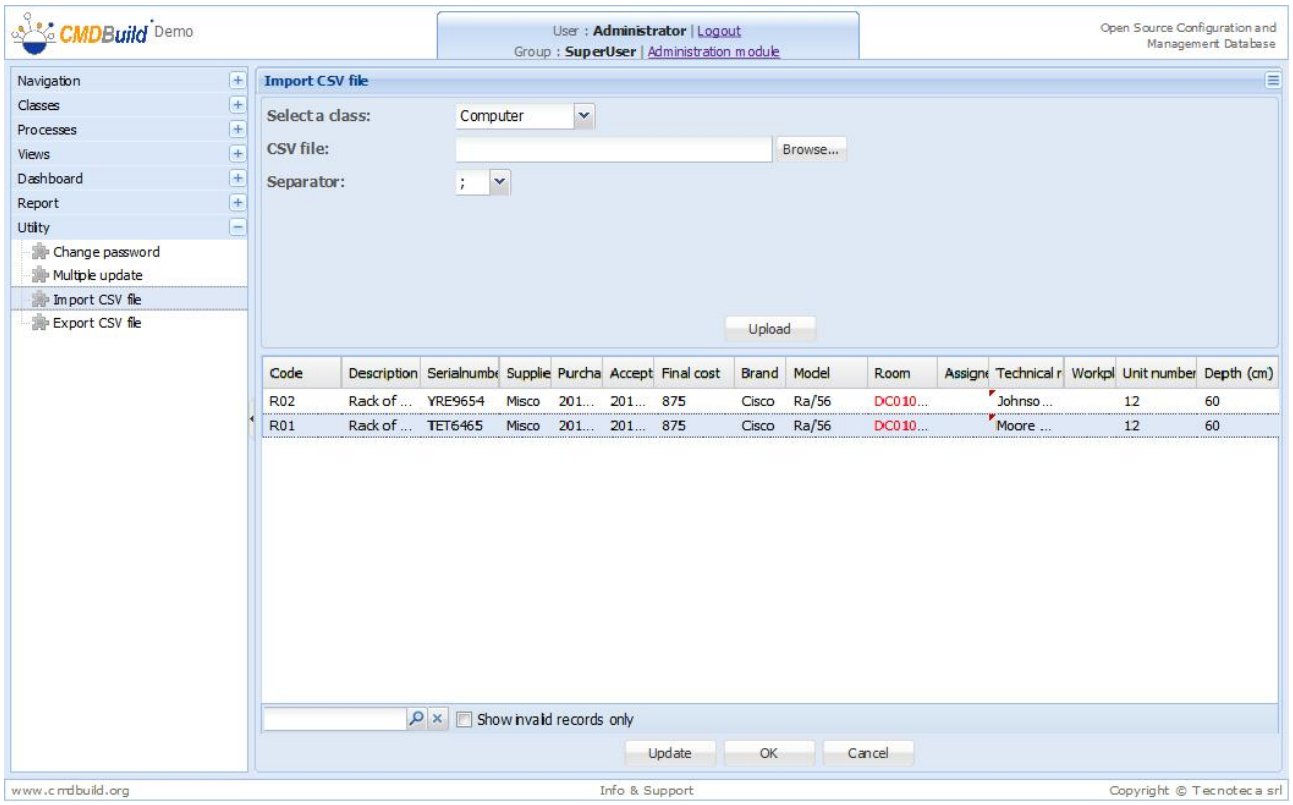
Step 1

The first step includes:

- class selection (the import operation works only on a single class)
- CSV file selection
- fields separator selection: "," (comma) or ";" (semicolon) or "|" ("pipe")

Confirming the operation with the "Upload" button, the application will import data from the specified file, showing imported cards in the standard grid.

Screenshot of user interface provided by the system.



The first row of the CSV file will include the columns headings.

The system will match only the columns in the CSV file with the attributes names (note: the name,

NOT the description) defined using Administration Module (i.e. the column name in the database table).

The import function will propose the CSV file contents as table on the CMDBuild page, highlighting in red possible invalid rows (column name not identified, compulsory columns not present, data type invalid or not corresponding to the database, etc).

Lookup attributes must match (uppercase/lowercase, blank spaces, etc.) the lookup description as stated, at registration time, in the Administration Module.

Reference attributes must match the "Code" (note: "Code", NOT "Description") field of the related card (uppercase/lowercase, blank spaces, etc.).

Dates must be written using dd/mm/yy format

In the CSV file, only the rows with the column number provided in the heading row are considered valid: you have to pay attention not to insert any additional empty rows or columns in the CSV file.

The example shows some errors on reference fields.

Step 2

The next step is the correction of any highlighted errors, which can be done by double-clicking on the field and changing the value (as shown in the screenshot).

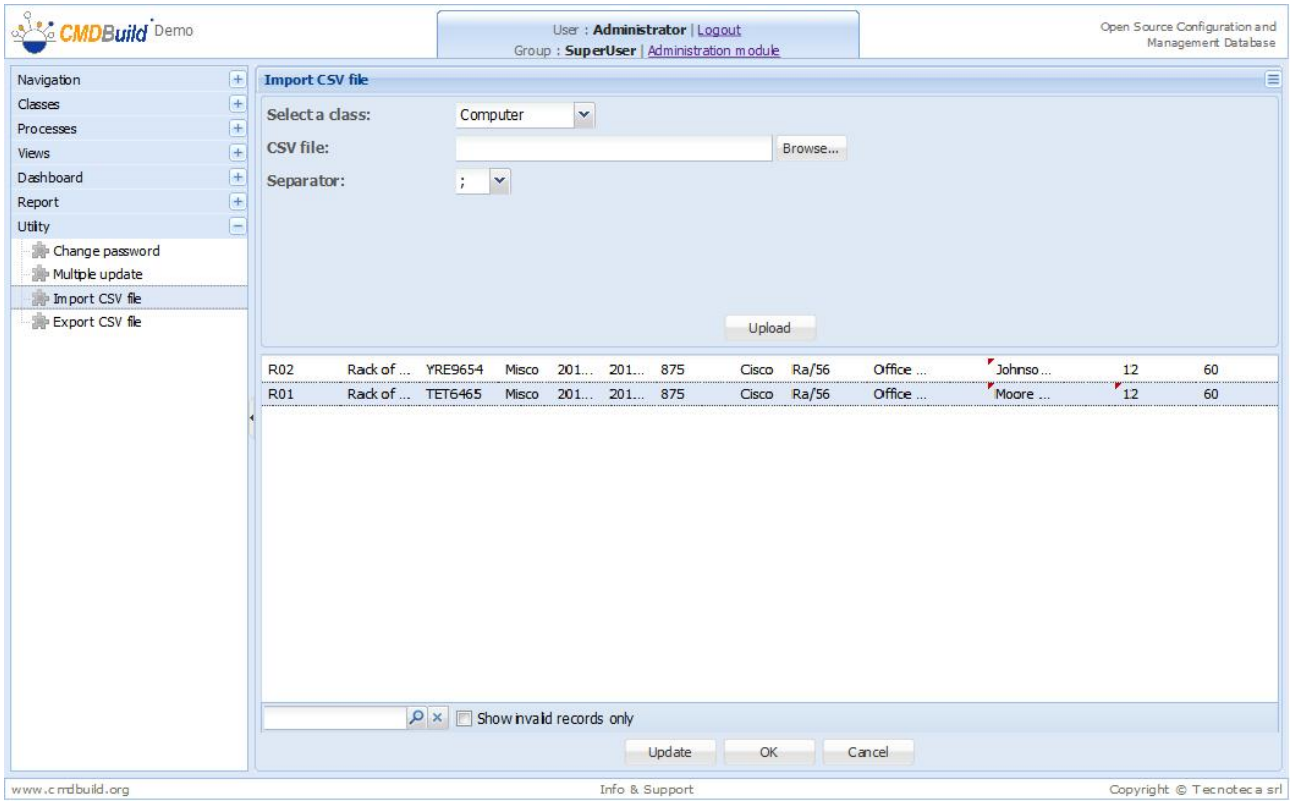
Alternatively, it is possible to modify the CSV file and retry the import operation.

Once resolved the errors, you can press the "Update" button to re-run data validation.

Finally, if there are no errors, you will complete the operation by filing the cards in the database.

Please, remember that the data import operation always appends data, so new cards are always added to the existing ones (otherwise it creates an error if there is a duplicate key).

Below you can find a screenshot of the user interface provided by the system for the final loading.

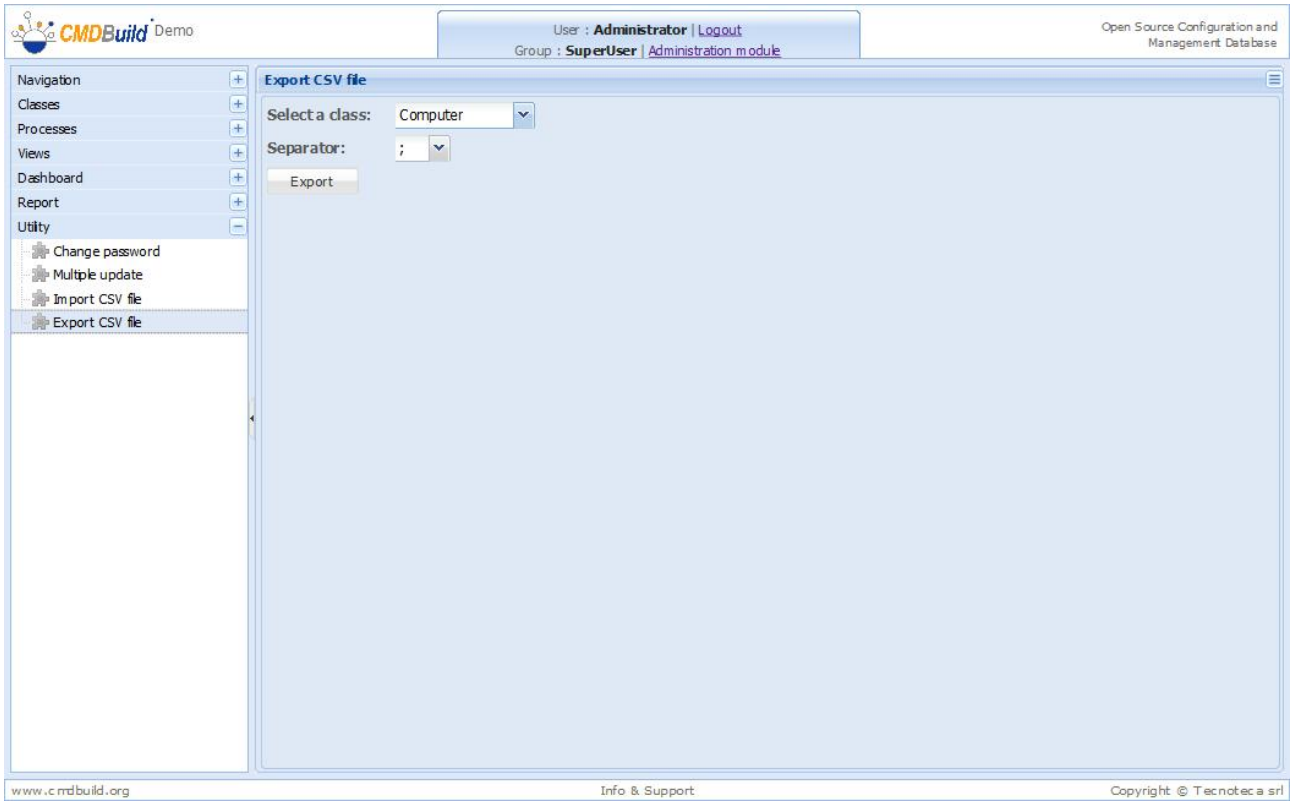

CMDBuild Demo
User : Administrator | Logout
Group : SuperUser | Administration module
Open Source Configuration and Management Database
Navigation
Classes
Processes
Views
Dashboard
Report
Utility
Change password
Multiple update
Import CSV file
Export CSV file
Import CSV file
Select a class:
Computer
CSV file:
Browse...
Separator:
;
Upload
R02 Rack of ... YRE9654 Misco 201... 201... 875 Cisco Ra/56 Office ... Johnso... 12 60
R01 Rack of ... TET6465 Misco 201... 201... 875 Cisco Ra/56 Office ... Moore ... 12 60
Show invalid records only
Update
OK
Cancel
www.cmdbuild.org
Info & Support
Copyright © Tecnoteca srl

Export CSV data

This feature allows you to create a CSV (Comma Separated Value) file that contains class data, using the selected field separator (possible separators are ",", ";" and "|").

The browser will ask you to save or open the file using the application associated with the file extension "csv".

Screenshot of user interface provided by the system.



APPENDIX: Glossary

ATTACHMENT

An attachment is a file associated to a card.

In order to manage the attachments, CMDBuild uses in embedded mode any document system which is compatible with the standard protocol CMIS (or the DMS Alfresco until the version 3 through its native webservice).

The management of the attachments supports the versioning of those files that have been uploaded a few times, with automatic numbering.

WORKFLOW STEP

"Activity" means one of the steps of which the process consists.

An activity has a name, an executor, a type, possible attributes and methods with statements (CMDBuild API) to be executed.

A process instance is a single process that has been activated automatically by the application or manually by an operator.

See also: Process

ATTRIBUTE

The term refers to an attribute of a CMDBuild class.

CMDBuild allows you to create new attributes (in classes and domains) or edit existing ones.

For example, in "supplier" class the attributes are: name, address, phone number, etc..

Each attribute corresponds, in the Management Module, to a form field and to a column in the database.

See also: Class, Domain, Report, Superclass, Attribute Type

BIM

Method with the aim to support the whole life cycle of a building: from its construction, use and maintenance, to its demolition, if any.

The BIM method (Building Information Modeling) is supported by several IT programs that can interact through an open format for data exchange, called IFC (Industry Foundation Classes).

See also: GIS

CI

We define CI (Configuration Item) each item that provides IT service to the user and has a sufficient detail level for its technical management.

CI examples include: server, workstation, software, operating system, printer, etc.

See also: Configuration

CLASS

A Class is a complex data type having a set of attributes that describe that kind of data.

A Class models an object that has to be managed in the CMDB, such as a computer, a software, a service provider, etc.

CMDBuild allows the administrator - with the Administration Module - to define new classes or delete / edit existing ones.

Classes are represented by cards and, in the database, by tables automatically created at the definition time.

See also: Card, Attribute

CONFIGURATION

The configuration management process is designed to keep updated and available to other processes the items (CI) information, their relations and their history.

It is one of the major ITIL processes managed by the application.

See also: CI, ITIL

DASHBOARD

In CMDBuild, a dashboard corresponds to a collection of different charts, in this way you can immediately hold in evidence some key parameters (KPI) related to a particular management aspect of the IT service.

See also: Report

DATABASE

The term refers to a structured collection of information, hosted on a server, as well as utility software that handle this information for tasks such as initialization, allocation, optimization, backup, etc..

CMDBuild relies on PostgreSQL, the most powerful, reliable, professional and open source database , and uses its advanced features and object-oriented structure.

DOMAIN

A domain is a relation between two classes.

A domain has a name, two descriptions (direct and inverse), classes codes, cardinality and attributes.

The system administrator, using the Administration Module, is able to define new domains or delete / edit existing ones.

It is possible to define custom attributes for each domain.

See also: Class, Relation

DATA FILTER

A data filter is a restriction of the list of those elements contained in a class, obtained by specifying boolean conditions (equal, not equal, contains, begins with, etc.) on those possible values that can be accepted by every class attribute.

Data filters can be defined and used exceptionally, otherwise they can be stored by the operator and then recalled (by the same operator or by operators of other user groups, which get the permission to use them by the system Administrator)

See also: Class, View

GIS

A GIS is a system able to produce, manage and analyse spatial data by associating geographic elements to one or more alphanumeric descriptions.

GIS functionalities in CMDBuild allow you to create geometric attributes (in addition to standard attributes) that represent, on plans / maps, markers position (assets), polylines (cable lines) and polygons (floors, rooms, etc.).

See also: BIM

GUI FRAMEWORK

It is a user interface you can completely customise. It is advised to supply a simplified access to the application. It can be issued onto any webportals and can be used with CMDBuild through the standard REST webservice.

See also: Mobile, Webservice

ITIL

"Best practices" system that established a "standard de facto"; it is a nonproprietary system for the management of IT services, following a process-oriented schema (Information Technology Infrastructure Library).

ITIL processes include: Service Support, Incident Management, Problem Management, Change Management, Configuration Management and Release Management.

For each process, ITIL handles description, basic components, criteria and tools for quality management, roles and responsibilities of the resources involved, integration points with other processes (to avoid duplications and inefficiencies).

See also: Configuration

LOOKUP

The term "Lookup" refers to a pair of values (Code, Description) set by the administrator in the Administration Module.

These values are used to bind the user's choice (at the form filling time) to one of the preset values.

With the Administration Module it is possible to define new "LookUp" tables according to organization needs.

MOBILE

It is a user interface for mobile tools (smartphones and tablets). It is implemented as multi-platform app (iOS, Android) and can be used with the CMDB through the REST webservice.

See also: GUI Framework, Webservice

PROCESS

The term "process" (or workflow) refers to a sequence of steps that realize an action.

Each process will take place on specific assets and will be performed by specific users.

A process is activated by starting a new process (filling related form) and ends when the last

workflow step is executed.

See also: Workflow step

RELATION

A relation is a link between two CMDBuild cards or, in other words, an instance of a given domain.

A relation is defined by a pair of unique card identifiers, a domain and attributes (if any).

CMDBuild allows users, through the Management Module, to define new relations among the cards stored in the database.

See also: Class, Domain

REPORT

The term refers to a document (PDF or CSV) containing information extracted from one or more classes and related domains.

CMDBuild users run reports by using the Management Module; reports definitions are stored in the database.

See also: Class, Domain, Database

CARD

The term "card" refers to an element stored in a class.

A card is defined by a set of values, i.e. the attributes defined for its class.

CMDBuild users, through the Management Module, are able to store new cards and update / delete existing ones.

Card information is stored in the database and, more exactly, in the table/columns created for that class (Administration Module).

See also: Class, Attribute

SUPERCLASS

A superclass is an abstract class used to define attributes shared between classes. From the abstract class you can derive real classes that contain data and include both shared attributes (specified in the superclass) and specific subclass attributes.

For example, you can define the superclass "Computer" with some basic attributes (RAM, HD, etc.) and then define derived subclasses "Desktop", "Notebook", "Server", each one with some specific attributes.

See also: Class, Attribute

ATTRIBUTE TYPE

Each attribute has a data type that represents attribute information and management.

The attribute type is defined using the Administration Module and can be modified within some limitations, depending on the data already stored in the system.

CMDBuild manages the following attribute types: "Boolean", "Date", "Decimal", "Double", "Inet" (IP address), "Integer", "Lookup" (lists set in "Settings" / "LookUp"), "Reference" (foreign key), "String", "Text", "Timestamp".

See also: Attribute

VIEW

A view not only includes the whole content of a CMDB class, it is a group of cards defined in a logical way.

In particular, a view can be defined in CMDBuild by applying a filter to a class (so it will contain a reduced set of the same rows) or specifying an SQL function which extracts attributes from one or more related classes.

The first view type maintains all functionalities available for a class, the second one allows the sole display and search with fast filter.

See also: Class, Filter

WEBSERVICE

A webservice is an interface that describes a collection of methods, available over a network and working using XML messages.

With webservices, an application allows other applications to interact with its methods.

CMDBuild includes a SOAP and a REST webservice.

WIDGET

A widget is a component of a GUI that improves user interaction with the application.

CMDBuild uses widgets (presented as "buttons") that can be placed on cards or processes. The buttons open popup windows that allow you to insert additional information, and then display the output of the selected function.