Version





# » Administrator Manual

January 2022 Author Tecnoteca srl www.tecnoteca.com



www.cmdbuild.org

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# 1. Introduction

# 1.1. The application

CMDBuild is an open source web environment for the configuration of custom applications for the Asset Management.

On the one hand, it provides native mechanisms for the administrator, implemented in a "core" code which has been kept separated from the business logic, so that the system can be configured with all its features.

On the other hand, it generates dynamically a web interface for the operators, so that they can keep the asset situation under control and always know their composition, detachment, functional relations and how they update, in order to manage their life-cycle in a comprehensive way.

The system administrator can build and extend his/her own CMDB (hence the name of the project), modelling the CMDB according to the company needs; a proper interface 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.

Using external visual editors, the administrator can design workflows, import them into CMDBuild and put them at operators' disposal, so that they can execute them according to the configured automatisms.

Similarly, using external visual editors, the administrator can design various reports on CMDB data (printouts, graphs, barcode labels, etc.), import them into the system and put them at operators' disposal.

The administrator can also configure some dashboards made up of charts which immediately show the situation of some indicators in the current system (KPI).

A task manager included in the user interface of the Administration Module allows you to schedule various operations (process starts, e-mail receiving and sending, connector executions) and various controls on the CMDB data (synchronous and asynchronous events). Based on their findings, it sends notifications, starts workflows and executes scripts.

The interoperability with other systems is managed through the CMDBuild BUS Service, called WaterWAY.

Thanks to document management systems that support the CMIS standard (Content Management Interoperability Services) - among which there is also the open source solution Alfresco - you will be able to attach documents, pictures, videos and other files. It is possible to define document categories differentiated by class and sets of metadata differentiated by category.

There is also a Scheduling, which can be supplied both automatically when filling in a data card and manually. This Scheduling will manage single or recurring deadlines related, for example, to certifications, warranties, contracts with customers and suppliers, administrative procedures, etc.

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

The system also includes a REST webservice, so that CMDBuild users can implement custom interoperability solutions with external systems.

Furthermore, CMDBuild includes two external frameworks:

- the CMDBuild Advanced Connector, which is written in Java and can be configured in Groovy: it helps the implementation of connectors with external data sources, i.e automatic inventory systems, virtualization or monitoring ones (supplied with non-open source license to the users that subscribe the annual Subscription with Tecnoteca)
- the CMDBuild GUI Framework, which helps the implementation of additional graphical interfaces, i.e. web pages (simplified for non technicians) that have to be published on external portals and that are able to interact with the CMDB through the REST webservice

CMDBuild includes a mobile interface (for smartphone and tablet). It is implemented as multiplatform app (iOS, Android) and is able to interact with the CMDB through the REST webservice (supplied with non-open source license to the users that subscribe the annual Subscription with Tecnoteca).

CMDBuild is an enterprise system: server-side Java, web Ajax GUI, SOA architecture (Service Oriented Architecture), based on webservice and implemented by using the best open source technologies and following the sector standards.

CMDBuild is an ever-evolving system, which has been released for the first time in 2006 and updated several times a year in order to offer more features and to support new technologies.

## 1.2. Official website

CMDBuild has a dedicated website: http://www.cmdbuild.org

The website gathers a lot of documents on technical and functional features of the project: brochures, slides, manuals (see next paragraph), testimonials, case histories, newsletters, forums.

# 1.3. 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.

### 1.4. Available manuals

This manual is dedicated to the Administration Module, through which the administrator can configure data, define users and permissions, and perform other tasks.

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

- system overview ("Overview Manual")
- system usage for operators ("User Manual")
- installation and system management ("Technical Manual")
- workflow configuration ("Workflow Manual")
- webservice details and configuration ("Webservice Manual")

# 1.5. Applications based on CMDBuild

Tecnoteca has used the CMDBuild environment in order to implement two different pre-configured solutions:

- CMDBuild READY2USE, for the management of assets and IT services, oriented to internal IT infrastructures or services for external clients (www.cmdbuildready2use.org) according to the ITIL best practice (Information Technology Infrastructure Library)
- openMAINT, for the inventory management of assets, properties and related maintenance activities (www.openmaint.org)

Both applications are released with open source license, except for certain external components (data sync connectors, Self-Service portal, mobile APP, etc.), that are reserved to the users that subscribe the annual Subscription with Tecnoteca.

# 2. Getting Started

# 2.1. What is a CMDB

A CMDB (Configuration Management Data Base) is a storage and consultation system that handles the asset information of a company.

The idea of CMDB was born in an IT environment (it is a fundamental component of ITIL best practice - Information Technology Infrastructure Library). In this manual it is extended and applied in a general context where you have to know, manage and control assets (Configuration Items or CIs).

It is the official central repository and provides a consistent view of the items that have to be managed.

It's a dynamic system that represents the current situation and knowledge of the inventory of assets and the related connections.

# 2.2. What's CMDBuild

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, attributes and relations (domains), of workflows, reports, dashboards, interoperability solutions with external system, etc.

Since there are not two organizations that manage their assets in the same way, we decided to set, as the primary CMDBuild feature, the system flexibility, developing features to configure the whole system (see the CMDBuild Overview Manual, chapters 4, 5 and 6) and to optimally design the application according to your needs.

From a technical point of view, the configurability is based on a wide use of "metadata".

The CMDBuild "core" code interprets metadata creating also the web interface for operators, who have the possibility of updating the CMDB, start and advance processes, execute reports, view dashboards, etc.

Despite of its name, CMDBuild is not only a Modeling Environment for CMDB applications, i.e. limited within the management of a database of items (Configuration Item).

CMDBuild mechanisms allow you to manage Configuration Items within the entire life cycle by using workflows, business rules, documents, reports, georeferences, interoperability with other systems, etc.

Thanks to CMDBuild you can implement complete Asset Management applications in the various application contexts.

A system based on the configurability has its clear advantages:

- it can adapt to your organization and work procedures
- possibility of a gradual carrying out of the system, reducing the organizational impact
- easy response to organizational and technological editing
- more independence for users
- same "core" code (managed "per product") used in different vertical solutions

# 2.3. Design criteria

At first, it's important to:

- choose a detail level proportional to the organization needs, human resources, financial, information and technology
- identify and involve the staff who will set up (Administrator) and update (Operator) information; an outdated system produces costs and no results
- introduce the new application in an organizational system based on procedures, roles and responsibilities that help the IT structure to correctly manage the information

A successful Asset Management project must consider impact and changes introduced by the system and must acquire the explicit approval of organization's managers.

# 2.4. Where to start

Implementing an Asset Management application through CMDBuild requires a preliminary design to manage the initial schema, ie identify main interests and options; then, the system can be easily extended as needed at a later date.

#### 2.4.1. Data model

Regarding the data model, we recommend you to start by managing a complete and accurate set of objects and relationships, and then extend the system once you've become more familiar with CMDBuild rules and usage.

In particular, you should identify:

- the types of items to manage (classes): IT assets (computers, peripherals, network systems, phone devices, software, etc.), assets related to real estates (buildings, plants, technical devices, furniture), assets related to production plants (factories, plants, machines), other types of assets (motor vehicles, electro-medical instruments, etc.)
- "attributes": useful to define each class (e.g. for an asset there will be a code, a description, the supplier, the purchase date, etc.) and the related type of datum (string, long text, integer, decimal, floating point, date, "lookup" list, reference, geographical attribute, or open or closed polygon)
- relations between classes
- "attributes" useful to describe each "domain" (e.g. the role of each person in charge of a service, the type of dependency between two assets, etc.) and the related type of data (string, long text, integer, decimal, floating point, date, "lookup")
- user accounts for every class

Another thing to consider is the hierarchy of classes since, in CMDBuild, it's possible to define abstract classes (Superclasses) which can be used as templates (for example "Computer") and then derive subclasses (for example, "Desktop", "Laptop", "Server") which will include the real data and both the shared attributes (specified in the superclass) and the ones specified in the subclass, in addition to the domain relations of the superclass and the specific domains.

It's important to identify a hierarchy that meets the current and future needs of the organization since a class can not be automatically converted into a superclass.

Once the entity-relationship model has been defined, you have to define classes and related attributes / data types.

At the end of this operation you should:

- use the Administration Module to model the system you've designed using E-R editor
- use the Management Module to insert, update and display cards



### 2.4.2. Processes

One important added value of CMDBuild is the possibility of defining processes (workflows) for operators to execute the management activities.

As for the data model, CMDBuild doesn't supply standard processes implemented in a static way, but provides a generic configuration system used according to the specific needs of every single company.

Workflows are designed using the open source external visual editor TWE (Together Workflow Editor), and then imported into CMDBuild (standard XPDL files) in order to be executed with the Together Workflow Server engine.

In the IT environment, these basic mechanisms allow the configuration of all processes provided by ITIL "best practices", included Incident Management, Change Management, Request Fulfillment, Service Catalog, etc.

In the Facility Management environment, all programmed and breakdown maintenance processes can be configured.

For a correct work planning, you have to start from the users' needs and define the specifications of the new process through a careful detail analysis.

In particular, the analysis step will detect:

- the actors of the process (users' groups or roles)
- the workflow, with:
  - the user's activities (interactive)
  - the automatic activities (scripts carried out by the system)
  - the transactions among activities (obliged or contingent)
- for every user's activity (data entry form):
  - the list of information with the related types of data and presentation modes (read-only, reading and writing, possible compulsoriness)
  - widgets to configure in order to execute additional operations (cards display, creation of relations, management of e-mail sending, attachment upload, etc.)
- for every automatic activity, the types of operations to implement (editing of cards or relations, report process, e-mail sending, external webservice calls, etc.)

The creation step will:

- configure through the Administration Module the persistence elements of the CMDB data (create the new process "class", create the attributes detected during the analysis, create "domains" among the process and other classes or processes)
- create through the Administration Module the groups of users involved in the process
- export through the Administration Module the structure of the new process, in order to provide the TWE visual editor with users' groups (roles) and process attributes
- design through the TWE visual editor the process flow, configuring in particular:
  - the "lanes" with the involved users' roles
  - the user's activities where attributes and widgets are located
  - the automatic activities, in order to write the scripts that implement the expected logics
- save the XPDL file from the TWE visual editor and import it into CMDBuild through the Administration Module

Once concluded the operations described above, the new process can be used through the Management Module of CMDBuild, which will automatically interpret and execute its flow through the workflow engine (the Tecnoteca River or the Together Workflow Server).

The above mentioned operations can be carried out when you need to edit an imported process, but the changes must be received only through the new process instances which will be started. Here's a sample of the user interface of the TWE visual editor.



Please see the CMDBuild Workflow Manual for further details.

### 2.4.3. Reports and dashboards

As for all other activities, you have to start from the users' needs and define the specifications of each report and dashboard through a detail analysis.

For each report it is important to know:

- the general page layout (orientation, header, footer, date, page number, widgets like pictures or geometric shapes, etc.)
- the types of information you have to include when printing and the ways to extract the database (SQL query with column list, join, filters, etc.), to organize, to group, to totalize, etc.
- the organization of extracted information (in a card, in a table, with subreports, formatting, calculations, etc.)
- any particular needs (integration of charts, barcode, pivot tables, etc.)
- any launch parameters and related default values

In order to design custom reports, CMDBuild uses the external visual editor JasperStudio from the open source suite JasperReports, which allows you to manage intuitively the layout and the formatting of the information extracted from the database.

Once the report is designed in JasperStudio, it is saved as XML file, imported in CMDBuild from the Administration Module and made available in operators' menus.

Here's a sample of the user interface of the JasperStudio visual editor.



Regarding the dashboards you have to know, for each chart:

- the number and location of the charts that have to be included in the dashboard
- for each chart:
  - the information to represent and the ways to extract it from the database
  - the type of chart (pie, bar, line, gauge)

The configuration of custom dashboards can be done from the Administration Module of CMDBuild, after the creation - through the tools of the PostgreSQL database - of a specific function that extract the important information.

#### 2.4.4. User interface and custom business logics

The CMDBuild Data Management Module interprets metadata defined in the Administration Module in order to create automatically the user interface to consult and update data, start and execute processes, print reports, display dashboards, etc.

It can happen that it is useful or necessary that operators have at their disposal custom pages, such as provided with views on data, several data tables on the same page, calculated fields or custom graphs, etc.

In this case, CMDBuild provides the Custom page mechanism to design user interface pages which are completely customized.

In CMDBuild 3 the custom pages can be implemented in javascript languages within the ExtJs mechanisms, instead of using the CMDBuild GUI Framework based on JQuery like in CMDBuild 2,

in order to reuse already available CMDBuild GUI components and get a greater total integration.

It is also possible to program in javascript some features with user interface which can be started from the contextual menu, custom widgets, form triggers.

And, finally, it is possible to program in javascript dynamic custom behaviours when editing a form: hiding or making not editable an attribute according to other attributes, enhancing an attribute according to other attributes, defining custom validators for an attribute.

#### 2.4.5. Interoperability solutions

CMDBuild implements a Service Bus that manages internal communication and facilitates the interoperability with applications and external systems, through standard services for coordination, security, messaging, routing and transformations.

Tasks can be configured through descriptor files.

The CMDBuild Service BUS is designed with a plugin architecture, where standard basic components available for everybody, standard advanced components supplied with the subscription and custom components can coexist.

#### 2.4.6. Other activities

All other configurations can be done working directly on the Administration Module of CMDBuild.

Please refer to the following chapters for detail information on the intervention modalities.

# 3. Role and features

## 3.1. The role of administrator

The role of the Administrator is fundamental for a correct management of an Asset Management project based on CMDBuild.

The administrator is the DBA (Data Base Administrator) of the CMDB.

The administrator is also the contact person for the Business, in order to manage the analysis of data model, processes, reports and dashboards.

He/She is responsible for data security, which can be managed by creating users' groups, defining permissions for each role and assigning every user to the appropriate role or by applying Multitenant mechanisms.

He/She configures also menus, recurring tasks, filters and views, and sets technical parameters of the system according to the used infrastructure.

He/She or a collaborator can configure the mechanisms of the client interface of CMDBuild in order to implement the required business logics: custom pages, form trigger, contextual menus, rules for data validating, etc.

The Administrator should have good programming skills (relational database and SQL language, Javascript language to work on "client" logics, etc.) and system skills. Furthermore he/she should be also a good analyst and understand the explicit and implicit requirements expressed by the company's business contact people.

# 3.2. The features of the Administration Module

The administrator's interface, called Administration Module, allows to process all configuration operations of the system.

In general, the Administrator's skills are:

- configuring the data model of the CMDB, in terms of classes, attributes, relations
- configuring the workflows through the definition of the data persistence and import of the XPDL descriptor of the flow
- configuring user interfaces and custom business logics (custom pages, contextual menus, form trigger widgets, dynamic custom behaviours when editing a card, etc.)
- configuring the reports through the import of the XML descriptor that describes its layout and dashboards
- configuring the other user interface components: views, filters, menus, navigation trees
- configuring the security aspects (roles, users, permissions, tenants)
- configuring technical component of the system: template for interactive operations or import / export batches through file, task manager, timetable rules template, GIS and BIM, localization, system management and other parameters

In more detail, the features in Administration Module (which will described in the following chapters) include:

• summary dashboard for the CMDB functioning and contents

- configuration of the CMDB data model and of certain behaviours of the related user interface:
  - creation of new classes, i.e. new object typologies
  - creation and change of (common and geographical) attributes in a class and possible definition of presentation layout
  - definition of behaviours on the user interface: categories of attachments, data organisation, attributes grouping in fieldsets, form trigger for the implementation of business logics, contextual menus, widgets
- workflow configuration related to the collaborative CMDBuild processes:
  - definition of persistence information in workflows (classes of a particular type)
  - import of the flow externally designed with TWE tool (XPDL file)
  - definition of the behaviours on the user interface, which are similar to the class ones
- creation of domains, i.e. types of relations and any related attributes among couples of classes
- creation of tablelists (lookup) to manage attributes with closed values
- definition of filters and views:
  - creation of predefined filters used during the data reference on the data cards
  - creation of views, both through filters on simple and multitable data and SQL queries
- definition of navigation trees (used in the GIS and in the Relation Graph)
- creation and change of dashboards, configured from user interface
- report creation and change, by importing the XML layout designed externally with the JasperStudio tool
- definition of custom menus for different users' groups
- configuration of custom elements for the user interface: custom pages and components
- definition of the way to manage attachments: document categories and document models (groups of metadata)
- safety management:
  - creation of users and groups of users (roles)
  - definition of permissions on classes and processes (also restricted to subsets of rows and columns) and on other items managed in the system (views, search filters, reports, dashboards)
- e-mail management (accounts and templates)
- template configuration for import / export (CSV / XLS, XLSX, DB tables, DWG, IFC)
- configuration of the Task Manager and of the operations to execute in the background
- configuration of Bus Service features and components (WaterWAY)
- configuration of the timetable feeding modes
- configurations of GIS and BIM
- localization into several languages
- system management
- definition of the system parameters

# 4. User Interface

# 4.1. Technology

The web desktop user interface of CMDBuild, both in the Administration Module and in the Data Management Module, is implemented through the framework Sencha ExtJS, a JavaScript library for the building of web interactive applications with AJAX technology.

Every operation the user carries out on the web interface is transmitted to the server code, written in Java language, through calls to the standard REST webservice methods of CMDBuild.

After that, the server carries out the user's requests converting them in operations on the PostgreSQL database.

# 4.2. General design criteria

The user interface of the Administration Module includes the following main elements:

- header
- left side menu, to access the single features of the Administration Module
- central work area, which includes the information in cards or tables
- popup window, to manage in a completely mode the information of a single row belonging to a grid presented in the central area
- footer

CMDBuild CMDBuild	d dei	mo				i SuperUser 👻 🗘	Ħ		
Navigation	•	Cla	asses	Supplier - Attributes - Company title				23	٤
🕋 Home	^	+	Add class	General properties ^					
- Classes				Name *	Description *				
🕶 🖿 Standard		Pr	operties	CompanyTitle	Company title			ור	
🖹 Cluster		+	Add attrik	Group	Mode *				
💌 📄 Company			Name	General Data 🗸 🗙	Editable		٦	r	
🖹 Corporate group		+	Code	Show in grid	Show in reduced grid				
🖹 Customer		Ē	Descript						
🖹 Supplier			Campo	Unique	Mandatory				
🕨 📄 Configuration item			Compar						
🖹 Disk		E	Address	Hide in filter					
🕨 📄 Employee	4	+	Postcod						
🕨 📄 Form		Ŧ	City	Active					
🕨 📄 Form field		Ŧ	Region						
Grid - IP address (w		$\oplus$	Country						
Grid - Purch. order		$\oplus$	Туре	Type properties ^					
Groups		$\oplus$	Activatic	Turch					
Infrastructure		$\oplus$	Phone	steine					
IP range		$\oplus$	Fax	Editor tuno *					
Tr process area		$\oplus$	Email	Default					
IT process category		$\oplus$	Website	Content Security					
IT process classifica				Plain text 🔹					~
· · ·	~					Save	С	ancel	

The header includes:

- on the left, the application logo (which has to be kept according to the distributing license of CMDBuild), the user's logo and the instance name
- on the right the user's name, the access to the preference menu, the transition to the Data Management Module, the notification management and the exit from the application

The menu on the left includes a folder for each function of the Administration Module, with the item lists (classes, processes, domains, lookup lists, views, search filters, dashboards, reports, menus, navigation trees, users' groups) or function lists.

The central working area includes:

- on the top, the controls:
  - buttons for actions on the type of item to manage, for example adding elements, printing, etc.
  - other controls for operations on the type of item to manage, for example the search
  - TABs to access other pages to manage the type of selected item, in turn including buttons and controls
- after that, the proper information organized in cards or grids (tables):
  - in case of cards, you can execute the expected operations from the available icons, for example enter in editing mode, fill in the form fields divided in "fieldsets", confirm or cancel the changes
  - in case of grids (tables) you can:
    - in the header: organize in one column, select the columns
    - on rows: highlight, enter in editing mode, expand the detail information, select
    - on the detail information: execute operations from the available icons

The popup window, if any, is a card for the filling in of the form fields, which can be divided in "fieldsets", confirming or canceling of changes.

The footer includes:

- the official website URL
- a page with useful links and credits
- the copyright notice

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

### 4.3. Localization

In CMDBuild there are two localization typologies, i.e. translation into the user's language:

- first-level localization, related to the only base CMDBuild user interface (menu texts and standard buttons, headers, footers, etc.)
- second-level localization, related to all elements configured for each verticalization of the base environment (class names, attributes, domains, lookups, etc.)

The first-level localization is managed through external system files (json format).

The second-level localization is managed in two ways:

- locally in each page where there are texts to localize, using an appropriate button that opens a popup window for the translation in the enabled languages
- globally, in the specific menu entry "Localizations", which allows to work on all texts to localize available in the system

For the local translation there is this icon, which you can see above the field to be localized:

Translation into other languages	
----------------------------------	--

which opens the following popup window:

Localization text	:	×
Deutsch:		
English:		
Español:		
Français:		
Italiano:	Personale interno	
	Save Close	

From the Management Module, by selecting your language, all localizable texts will be translated into the chosen language.

# 5. Accessing the application

## 5.1. General Information

The Administration Module is available only to the administrator and can be used to configure the current CMDBuild instance according to the logic model and to make changes and useful extensions at a later stage.

The changes made will be immediately active and available to operators within the Management Module.

### 5.2. Computer requirements

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

The user must have a recent web browser (Mozilla Firefox, Google Chrome, Microsoft Edge, Apple Safari).

A recent CPU and appropriate RAM is also required (at least 4 GB).

The web architecture ensures complete usability to any organization that operates in multiple locations; any entrusted client can connect and interact with the system.

### 5.3. Authentication

You must login to use the application.

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

Login	
Language	
English	•
Username *	
admin	
Password *	
•••••	٢
l forgot my password	
	Login

In order to access to the Administration Module, the user must have an administrator account.

In case users forgot their password, they can access the following form by clicking on the link "I forgot my password":

Login		
I forgot my password		×
Username *		
admin		
E-mail address *		
admin@gmail.com		
	Reset password	Cancel
	Login	

The system checks that the email address corresponds to the one registered in the database and sends then an email with a temporary code (token). By inserting that code in the password space, the form for changing the password will appear. At this point, the user can regularly access the application with the new password. Please note that the password has to meet the security policies defined in the proper page for the system configuration.

CMDBuild is released with a preconfigured administrator account, with username "admin" and password "admin". You can use this for the first access to the application. It is necessary to edit the password to avoid unauthorized access and any following security issue.

Once entered CMDBuild and having the necessary permissions, you can access the Administration Module through the icon on the top right (highlighted in red in this image):



# 6. Home

When you open the Administration Module, you will be offered a homepage showing some graphs and information useful to understand the state of the system.

A first batch of information includes:

- system status (with a set of graphs for each node in case of cluster architectures): system load, used disk space, RAM memory in use
- stats on types of entities configured in CMD Build: number of classes, number of processes, number of domains, number of visits, number of views, number of reports, number of dashboards, number of custom pages

Here you can see the related screenshot



The interface represents also an access point to the correlated features.

The buttons placed on the right of the server status graphs allow to:

- · update the page
- access more detailed info about the state of the system (first following screenshot)
- access the server management page and the active services one (second following screenshot)

CMDBuild	CMDBuild demo									SuperUser	- L	7 🎟	•
Navigation	System info										×		
🖀 Home	Search in grid	:									С	<i>C</i> =	· · ·
Classes	Parameter				Value								
Domains	🖯 cmdbuild										^		
🕨 🖿 Lookup type	Application up time				460 hours	39 minute	es 22 seconds						
Views	Server time				2021-12-12	2 16:13:40	(UTC)						
🕨 🖿 Search filter	Server timezone				Europe/Ro	me						3.5 GB	
🕨 🖿 Dashboards	DB timezone				Europe/Ro	me					- 11		
🕨 🖿 Reports	Disk used				34.7 GB								
🕨 🖿 Menus	Disk free				65.9 GB						- 11	18.1	G
🕨 🖿 Custom page	Disk total				100.6 GB								
🕨 🖿 Custom com	Java pid				18604						- 11		
DMS	Java memory used				1.1 GB								+
Navigation t	Java memory free				539 MB								
Groups and	Java memory total				1.7 GB								
Users	System memory used				6 GB							154	
🕨 🖿 Email	System memory free				12.1 GB								
Imports/Exp	System memory total				18.1 GB								
🕨 🖿 Task manag	System load				1.42						~		
Service bus		0	15	31	46	62	77	92	108	123	139		
Scheduler	~						Count						~

🗳 CMDBuild demo 🔮 SuperUser 👻 🗘 🆽 🗭						•	
Navigation	• s	iystem					
倄 Home	^						<b>A</b>
Classes							^
Processes		System actions					- 11
Domains		💼 Drop cache 🛛 🧲 System preload 🖬 Unlock all cards					
🕨 🖿 Lookup types							
Views		Logs					- 11
Search filters		🖋 Edit log configuration 🛛 📰 View logs 🛛 📩 Download logs	5				
Dashboards			-				
🕨 🖿 Reports		Services					- 11
🕨 🖿 Menus			U. 11140504/045				
Custom pages	4	Service	cmdbuild/18604/215t				- 11
Custom components		BIM Service	Running				
DMS		BIM_ Bimserver client	undefined				
Navigation trees		Clustering	Not running				
Groups and permissions		DMS Service	Running				
Users		DMS_CMIS client	오 Running				
🕨 🖿 Email		DMS_ SharePoint Online	• Not running				
Imports/Exports		Email Queue	• Not running				
🕨 🖿 Task manager		GIS Service	Running				
Service bus		GIS GeoServer client	Running				
🕨 🖿 Scheduler			Running				
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6. Home



The button "+" placed to the right of the server status graphs allows to move over the creation features for each entity type.

A second information batch includes:

- volume of data present in CMDB (data cards, process instances, attached documents, relations) and the latest years growth trend
- Indications on the active lock number in the system
- List of charts present in the database, allowing research and filtering by type, detail of chart number, split in active, edited and erased, indication of the occupied space
- number of users and configured groups
- number of configured batch tasks, differentiated by type

Here you can see the related screenshot

#### Administrator Manual



Also in this case the interface represents an access point to the involved features.

The button "Unlock all" allows to reset any lock applied to data cards and processes.

The buttons "+" placed to the right of the charts allow moving over the creation features for:

- users and groups
- task batch of different types

# 7. Classes

In CMDBuild, a class represents objects to be stored in the CMDB. The system creates automatically all the forms to manage data. The input fields match the attributes defined in the class, and cards data is stored in the related database table (automatically created).

# 7.1. Properties tab

The "Properties" tab allows you to create new classes and edit the old ones.

CMDBuild CMDBuild	der	no							嶜 SuperUser 👻 🔔 🖽	•
Navigation	•	Classes								
倄 Home	^	+ Add class	🔒 Print sc	hema S	earch on all	classes and attribute	s	Q×	Class: InternalEm	ployee
- Classes			_							
🕶 🖿 Standard		Properties	Attributes	Domains	Layout	Import/Export file	Layers	Geo attributes		
Cluster									e 🗇 🖄 🖉	₽ -
🕨 📄 Company		General pr	operties —							^
Configuration item										
Disk		InternalEmplo	Vee				Interna	ption		
🔻 📄 Employee		плетнастирю	yee				Interna	arempioyee		
🖹 Customer empl		Inherits from					Supero	class		
🖹 External emplo		Employee								
🗎 Internal emplo	4	Туре								
🖹 Supplier emplo		Standard								
Form		Activo								
Form field		Active								
📄 Grid - IP address (w										
📄 Grid - Purch. order			notors 🔿 —							
Groups		cluss i ului	lieters							
Infrastructure		Default filter								
IP range										
IT process area										
IT process category		Default temp	late for data	import			Defaul	lt template for data	export	
	~			unu an albuilte		ofo . Convright @ 3	Formator -	-		~
			W	www.cmdbulld	1.01g ' 1	TO Copyright @ I	rechoteca si			

#### There is the possibility of performing the following operations:

add a new class	+ Add class
print data model schema (PDF or ODT)	🔒 Print schema
<ul> <li>do searches on the configured classes and the related attributes</li> </ul>	Search on all classes and attributes <b>Q X</b>
edit the selected class	Ø
<ul> <li>delete the selected class (physical removal if not</li> </ul>	â

containing data, otherwise logic)	
• disable the selected class (i.e. set the status as non-active)	$\oslash$
print current class details	Adobe Pdf OpenOffice Odt

Each class requires several parameters to be compiled (metadata), that are divided into the following selections.

#### 7.1.1. General properties

The following information is required:

- Name: class name, that corresponds to the physical name of the table in the database
- "Description" the class name used in the application (the flag on the right allows you to open a popup window to localize the description in the enabled languages)
- Inherit from: name of the class (superclass), by default all classes inherit from the first-level system superclass "Class")
- Superclass: it states whether it is a superclass (it can have inherited classes and therefore it is just a template not containing data) or not
- Type, which takes the following values:
  - Standard: common CMDBuild class
  - Simple: class not containing any mechanisms (inheritance, data history, attributes and reference, relations, etc.), which is optimized in order to manage huge archives (registration of data received from monitoring systems, IOT, etc.)
- Multitenant mode, which can take the following values:
  - Never: all class cards are visible to all tenants
  - Always: all class cards are visible to one tenant
  - · Mix: some class cards are visible to all tenants, other ones to one
- Active: the class is active and can be used

- General Attributes		
General Attributes		
Name:	Description:	
InternalEmployee	Internal employee	
Parent:	Superclass:	
Employee		
Class type:		
Standard		
Active:		
1 Contract of the second secon		

Class Parameters ^

#### 7.1.2. Other class parameters

The following information is required:

- Default filter: it allows you to specify the default filter (selected among the filters defined for that class in the specific function) that has to be applied in the list of class cards
- Default template for import: it allows to specify the default template in order to execute the import of data on the current class, which must already be configured
- Default template for export: it allows to specify the default template in order to execute the export of data from the current class, which must already be configured
- Inline notes: it allows you to state whether the field Notes (usually managed in a specific TAB) has to be inserted in a specific "fieldset" (group of information) in the base card
- Closed inline notes: it is possible to state whether the "fieldset" located in the base card has to appear as closed by default
- Help text: allows to prepare the help text which will be available in the Data management module (localizable)

Default filter	
- × ×	
Default template for data import	Default template for data export
- × ×	- X
Inline notes	Closed inline notes
Help text	)ee
$B  I  \underline{U} \mid \underline{T} \bullet  \boxed{\blacksquare} \bullet \mid \underline{\equiv}  \underline{\equiv}  \underline{\equiv} \mid \$$	S   🗄 🔚   🌮   🝠   🖍
The Internal Employees class allows you to manage the archive with all use A separate class is available for managing External Employees.	ful information, both personal and administrative.

#### Administrator Manual

— Class Parameters ^ ———————————————————————————————————	
Default filter	
× X	
Default template for data import	Default template for data export
- × ×	- × ×
Inline notes	Closed inline notes
Help text	
The Internal Employees class allows you to manage the archive with all on A separate class is available for managing External Employees.	useful information, both personal and administrative.

#### 7.1.3. Attachments

The following information is required:

- Document category: it allows you to specify the document category containing the entries that have to be used to classify the attachments of the current class (unless otherwise stated, the general class of the CMDBuild instance is used, which is specified in the general configurations)
- Inline attachments: it allows you to state whether the attachment list (usually managed in a specific TAB) has to be inserted in a specific "fieldset" (group of information) in the base card
- Closed inline attachments: it is possible to state whether the "fieldset" located in the base card has to appear as closed by default

Class Attachments A			
DMS Category			
	•	×	
Inline attachments			Closed inline attachments

#### 7.1.4. Data organization

It is possible to organize the data cards in the Management Module specifying which attributes have to be organized, their sequence and the type of organization.

If not otherwise specified, the default organization is on the attribute "Description" (ascending).

#### Administrator Manual

Data cards sorting ^		
Attribute	Direction	
Company	Ascending	
LastName	Ascending	
•	-	

#### 7.1.5. Attribute grouping

It is possible to list and localize the attribute groupings (fieldsets) that have to be used for the current class.

For each group, it is possible to state whether it must appear open or closed by default.

— Attribute groupings (2) ^ —		
Group	Display mode	
General Data	Open	0 🛧 🔸 🗙 🎮
Administrative Data	Open	🖉 🛧 🔸 🗙 🍽
Create new group	Display mode	
	Open	
	•	

#### 7.1.6. Validation rules

It is possible to write Javascript code in order to verify that the data card compiled in the Management Module satisfies the desired criteria (with the "expander" button.

In case the validation is not satisfied, the button for the card saving is not enabled and the card remains in edit mode.

- Val	Idation $\sim$ -			
Valid	stion Dulo			
vallu	ation Rule			
1				
1				

#### 7.1.7. Form trigger

The form trigger mechanism allows you to define the operations that have to be executed in the Management Module on data of the CMDB, before or after that a user carries out an operation like inserting, editing, cloning or deleting.

It is possible to define several triggers in the same class.

For each form trigger you have to define:

- the Javascript
- the type of event that script has to activate: before an insertion, after an insertion, before a change, after a change, before a cloning, after a cloning, after a cancellation
- the trigger status (active, not active)

It is possible to organize the form triggers in the desired mode.

Earm Triggard (0)			
Portin Triggers (0)			
Javascript Script	Events	Status	
Create new form trigger			
1	Before edit 🗌 After edit	Active	
	🗌 Before insert 🗌 After insert		
	🗌 Before clone 🗌 After clone		
	After delete		

#### 7.1.8. Contextual menu

The purpose of the contextual menu is making available additional features, which are related to the class where the user is working and useful to work faster.

For each entry of the contextual menu you have to define:

- the name of the menu entry
- the type of the menu entry:
  - Component: reuse of a component already available in a system library
  - Customized: custom code
  - Separator: separator line between two menu sections
- the component to reuse, in case the type of Component has been chosen
- the implementation of the menu entry:
  - · Javascript, for custom implementations
  - sequence of parameters launching a previous component
- type of applicability: only to the current row, to the selected rows, to all rows of the class
- the status of the menu entry (active, not active)

It is possible to organize the entries of the contextual menu in the desired mode.

— Context Menus (0)	×				
Menu item name	Type / GUI custom	Javascript script / custom GUI Parament	Applicability	Status	
Create new conte	Custom 💌	1	All	Active	+

#### 7.1.9. Form widget

This feature allows you to configure some features that will be available as buttons in the Management Module (and later as further fieldsets of the main card).

It is possible to choose among the CMDBuild standard widgets or create custom ones.

The available widgets are as follows:

- · Calendar: it shows the specified deadlines on a calendar
- Create / modify card: it allows to insert / edit a data card into a class that is different to the current one
- Create report: it allows to print a report
- 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)

In case the custom widgets are configured in the system, they will appear in the selection list.

Further standard widgets can be used just within the workflows (see the Workflow Manual). For each widget you have to define:

- the widget name
- the type of widget, to be chosen in a list including both standard and custom ones
- the sequence of activation parameters
- the status of widgets (active, not active)

It is possible to organize the widgets in the desired mode.

 - Form Widgets (0) ^						
Widget Name	Gui custom			Status		
Create new widget						
	-	1		Active	 	 +

#### 7.1.10. Content management

This feature allows you to set the navigation mode for the current class:

- standard: standard page generated by the system
- managed with custom page:: custom page selected among the available ones
- managed with views: view selected among the available ones
- managed with custom addressing: destination page selected among the available ones for the current class
#### Administrator Manual

— Content management ^ ————		
Routing behavior		
Managed with Custom Page	-	
Custom page		
	-	

## 7.1.11. Icon

The function allows you to import an icon that has to be combined to the class in PNG format or to delete the current icon.

The icon is also used to represent the data cards of that class in the Relation Graph.



# 7.2. Attributes tab

The Attributes tab allows you to manage the class attributes.

This tab is used to configure information to a new class, or update an existing class.

The attributes of a class, corresponding to the columns of the related database table, can be:

 inherited from a superclass (from the first-level superclass called "Class" and containing the attributes "Code", "Description" and "Notes", in common with all classes of data model, or from an intermediate-level superclass defined by the user)

CMDBuild CMDBuild	l dei	mo								1	SuperUser 👻	↓ ■	•
Navigation	•	Cla	asses										
🖀 Home	^	+	Add class 🔒	Print s	schema	Search on al	l classes and attrib	utes	Q×	]	Clas	s: InternalEmpl	loyee
🕶 🖿 Classes		-											
🕶 🖿 Standard		Pr	roperties Attr	ibutes	Domain	s Layout	Import/Export fi	e Layers	Geo att	ributes			
Cluster		+	Add attribute	Searc	h in grid		×				I	nclude Inherite	ed: 🗹
🕨 📄 Company			Name	Desc	ription	Туре	Show in gr	id Uni	que	Mandatory	Active	Mode	
Configuration item		÷	Code	Code	9	STRING						Editable	^
Disk		$\pm$	Description	Desc	ription	STRING						Hidden	
💌 📄 Employee		Ŧ	Number	Nurr	nber	STRING	V				<b>S</b>	Editable	
🖹 Customer empl			LastName	Last	name	STRING						Editable	
🖹 External emplo	_												
📄 Internal emplo			General prop	erties	Type pro	perties Ot	her properties						
🖹 Supplier emplo			Name					Descrip	ion				
Form			LastName					Last nan	ne				
Form field			Group					Mode					
📄 Grid - IP address (w			General Data					Editable					
📄 Grid - Purch. order			Channin anid					Charry in					
Groups								Show in reduced grid					
lnfrastructure													
IP range			Unique					Mandat	ory				
IT process area													
IT process category			Hide in filter										
	~		U				-						~
					www.cmdbu	ild.org	Info · Copyright	© Tecnoteca s	1				

• specific of the class in question

There is the possibility of performing the following operations:

create a new attribute	+ Add attribute
search for the attribute in the class	Search in grid 🗙
<ul> <li>show all attributes or just the not inherited ones</li> </ul>	Include Inherited: 🗹
<ul> <li>expand the current row and display its data on TABs</li> </ul>	÷
edit the selected attribute (edit available information)	<u>A</u>

display the complete information related to the selected attribute	2
clone the current attribute	Ē
delete the selected attribute (if not inherited and not containing data)	Ē
disable the selected attribute (i.e. set the status as non-active)	0

Each attribute requires several parameters to be compiled (metadata), that are divided into the two following selections.

🗳 CMDBuild CMDBuild de	mo		嶜 SuperUser 👻 🧕	7 🎟	•				
Navigation •	nternal employee - Attributes - Last name 🦧 🕺								
A Home	General properties $\land$				/ee	Ī			
- Classes	Name *	Description *		<b> R</b>					
🕶 🖿 Standard	_ LastName	Last name							
Cluster	Group	Mode *				P			
Company	General Data 💌 🗙	Editable		-					
Configuration item	Show in grid	Show in reduced grid			_	~			
Disk									
The Employee	Unique	Mandatory							
🖹 Customer empl									
External emplo	Hide in filter								
🗎 Internal emplo									
Supplier emplo	Active								
Form									
Form field									
🖹 Grid - IP address (w	Type properties ^				-				
📄 Grid - Purch. order	Type *								
Groups	STRING								
Infrastructure	Editor type *								
IP range	Default								
IT process area	Content Security								
IT process category	Plain text -				~				
			Save	Cance		/			

## 7.2.1. General properties

The following information is required:

- Name: attribute name, that corresponds to the physical name of the database column
- "Description": used to report the attribute name in the application
- Group: used to group together attributes in the Management Module (through tabs when expanding the grid row, through fieldsets when editing or displaying)
- Editing mode, that can be:
  - Editable: normal editable attribute
  - Read Only: visible but not editable

- General properties

- Hidden: attribute not visible
- Unchanging: this attribute can be set once and not be edited any more
- Display in grid: it states if the attribute has to be displayed in the grid display in the Management Module
- Display in reduced grid: it states if the attribute has to be displayed in the reduced grid in the Management Module (GIS, BIM) or in the mobile APP
- · Unique: it states that the attribute represents a unique key
- Mandatory: it states that the attribute has to be present
- · Hide in filter: the attribute does not appear among the ones that can be used to set filters
- Active: the attribute is active and can be used

deneral properties			
Name *		Description *	
LastName		Last name	
Group		Mode *	
General Data	- X	Editable	
Show in grid		Show in reduced grid	
Unique		Mandatory	
Hide in filter			
Active			
$\checkmark$			

## 7.2.2. Property of the attribute type

Some always-available information is required, such as other differentiated according to the type of attribute.

The following information is always available:

- Type of attribute, which can be:
  - Biginteger: integer (8 byte)
  - Boolean: with values Yes / No
  - Char: Single Character
  - Date
  - Decimal
  - · Double: double precision floating point
  - · File: to upload an attachment as form field
  - Formula: to set a formula (SQL or Groovy) for the dynamic calculation

- Foreign key: link to another class, only for "Simple" classes type
- Integer: integer (4 byte)
- IP address: IP V4 or IP V6 address, with possibility of specifying the mask value
- Link: mention to addressable resources through URL
- Lookup: list of closed values (which can be configured in the Lookup management)
- LookupArray: lookup with multiple selection
- Reference: link to another class through a domain (type of relation), available only for "Normal" classes
- String
- Text
- Time
- TimeStamp

Here's the additional information, differentiated according to the type of attribute.

#### **Biginteger-type attributes**

It is similar to the integer-type but with extended capacity, as from specifications of the PostgreSQL database (8 bytes instead of 4 bytes).

#### **Boolean attributes**

It is possible to state if it must be initialised by default as "false"

#### Char attributes

There is no additional information.

#### Date attributes

With a proper icon, it is possible to link the date to a generation rule for deadlines configured with the specific function.

#### **Decimal attributes**

For Decimal attributes these additional information are required:

- Precision: indicates the total number of digits
- Scale: indicates the number of digits in the decimal part
- Unit of measurement (free text, for example Kg, Km, Num, etc.)
- Location of unit of measurement (before the number and after the number)
- Show separator

## Double attributes

For Double attributes further information is required:

• Unit of measurement (free text, for example Kg, Km, Num, etc.)

- Location of unit of measurement (before the number and after the number)
- Show separator of thousands
- Showing digits number (if there are more the number gets rounded)

#### File attributes

You can manage an attachment, which has been associated to a DMS category and filed into the DMS system, as a field of the card. In this way you can individually manage its presence, obligation, etc.

For File attributes this additional information is required:

- DMS Category, it can be selected among those defined for the current class
- · It shows the preview on the card

#### Formula-type attributes

These are fictitious attributes, not filed into the database but dynamically recalculated through a SQL function (useful for processes inside the CMDB) or a Groovy script (useful to interact with external systems via webservice).

For Formula attributes this additional information is required:

- Formula (SQL function or Groovy script)
- A function among the available ones, in case of SQL function
- A script among the available ones, in case of Groovy script

#### Integer attributes

For Integer this additional information is required:

- Unit of measurement (free text, for example Kg, Km, Num, etc.)
- Location of unit of measurement (before the number and after the number)
- Show separator of thousands

## IP address attributes

For IP address attributes the following information is required:

• IP type: it states the type IPV4 or IPV6 or mix

#### Link attributes

It allows you to address an URL resource through a card field For Link attributes this additional information is required:

- Show label
- Mandatory label

## Lookup attributes

Lookup attributes allow you to select the value of the attribute from a predefined list of values; this list is created and modified using Lookup management function in the Administration Module (see specific chapter).

For Lookup attributes this additional information is required:

- Lookup list: it allows you to choose the value list that has to be linked to the configured attribute
- Filter: it allows you to exclude some values from the list according to the current context and can be defined through CQL (CMDBuild Query Language)
- Metadata: through the button "Add metadata" you can access a popup window to set support variables defined in the same CQL language and usable while writing the filter
- Pre-select if unique: it forces the development of the lookup attribute, in case it includes a unique value

## LookupArray attributes

LookupArray attributes are similar to the Lookup ones, except for the multiple selection of values.

Unlike the Lookup attributes, they can not be structured on more levels.

For LookupArray attributes this additional information is required:

- Lookup list: it allows you to choose the value list that has to be linked to the configured attribute
- Filter: it allows you to exclude some values from the list according to the current context and can be defined through CQL (CMDBuild Query Language)
- Metadata: through the button "Add metadata" you can access a popup window to set support variables defined in the same CQL language and usable while writing the filter

## **Reference attributes**

The Reference attributes allow you to link a data card to another "parent" card through a domain with cardinality 1:N (where the "N" side is the current class).

In the Management Module it will be possible to enhance a Reference attribute by selecting the parent card from the list of available references (which contains the attribute "Description").

A reference attribute, in the Management Module, creates or modifies the relation between two cards.

Even if differently configured, a Reference attribute is similar to a Foreign Key column in a relational database table.

For Reference attributes this additional information is required:

- Domain: it allows you to choose the type of link between the current class and the final class (with cardinality 1:N where the "N" side is the current class); each Reference attribute has to use a different domain
- Filter: it allows you to exclude some values from the list of the description of cards linked according to the domain and can be defined through CQL (CMDBuild Query Language)

- Metadata: through the button "Add metadata" you can access a popup window to set support variables defined in the same CQL language and usable while writing the filter
- Preselect if unique

## String attributes

For String attributes this additional information is required:

- Maximum length: maximum amount of characters allowed
- Content safety: selection of the type of admitted characters, with the following possibilities:
  - Plain text
  - Secure HTML (some TAGs are excluded)
  - Complete HTML

## **Text attributes**

For Text attributes this additional information is required:

- Editor-type, which can be:
  - Plain text
  - HTML editor: formatted text with a WYSIWYG editor
- Content safety: selection of the type of admitted characters, with the following possibilities:
  - Plain text
  - Secure HTML (some TAGs are excluded)
  - Complete HTML

## **Time attributes**

For Time attributes this additional information is required:

Show seconds

## Timestamp attributes

For Timestamp attributes this additional information is required:

Show seconds

## 7.2.3. Other properties

The information related to the "expander" button is required:

- Help: help text for the operator, with markdown syntax
- View rules: you can make the attribute hidden or not editable in the data Management Module, according to the value of other attributes in the form (through javascript code)
- Validation rules: you can state whether the value inserted into the data Management Module is valid or not (through javascript code)

• Auto value: you can set the field value in the data Management Module according to other attributes of the form (through javascript code)

— Other properties ^			
Help	с <sup>л</sup>	View rules	2 <sup>78</sup>
1		1	
Validation rules	R <sub>M</sub>	Auto value	×2
1		1	

# 7.3. Domains tab

The Domains tab allows you to manage the various types of relations (domains) defined for the current class (see also the Domain function at the paragraph 9.1.1).

🗳 CMDBuild CMDBuild de	mo						20	SuperUser 👻	↓ <b>⊞</b> 🗭
Navigation 4	Cl	asses							
🕆 Home	+	Add class 🔒	Print schema	Search on all class	ses and attributes	Q >	:	Cla	ss: InternalEmployee
- Classes	-								
🕶 🖿 Standard	Pr	operties Attril	Domains	Layout Im	port/Export file	Layers Geo at	tributes		
E Cluster	+	Add domain	Search in grid		×				Include Inherited: 🗹
🕨 📄 Company		Name	Description	Origin	Destination	Direct descri	Inverse desc	Cardinality	Active
Configuration item	ŧ	AdditionalM	AdditionalM	Employee	Organization	is additional	has as additi	N:N	× ^
🖹 Disk	÷	ApproverSu	ApproverSug	Employee	Request fulfil	is suggested	has as sugge	1:N	
🔻 🖹 Employee	÷	AssigneeCl	AssigneeCl	Employee	Configuratio	equipped wi	assigned to	1:N	
🖹 Customer empl	Ŧ	BusinessCo	BusinessCon	Employee	Rusiness ser	is husiness c	has as husin	1·N	
🖹 External emplo	Ē	CIEmployoo	CIEmployee	Configuratio	Employee	bas as conta	is contact po	NEN	
📄 Internal emplo		Crement	Compose	Company	Employee	has as conta	halanan ta	1.01	
🖹 Supplier emplo		CompanyE	CompanyEmpl	Company	Employee	nas	belongs to	1:N	
Form	+	DstUserAsse	DstUserAsse	Employee	Asset manag	is destinatio	has as desti	1:N	
Form field	+	EmployeeSe	EmployeeSer	Employee	Service contr	is subscriber	is signed up	1:N	<b>S</b>
Grid - IP address (w	$\pm$	GrantedEm	GrantedEmp	Employee	Service	has rights for	is granted for	N:N	
Grid - Purch. order	$\oplus$	ManagerOU	ManagerOU	Employee	Organization	is manager of	is managed by	1:N	<b>S</b>
Groups	$\oplus$	OrigUserAss	OrigUserAss	Employee	Asset manag	is original us	has as origin	1:N	<b>S</b>
Infrastructure	$\pm$	OUEmployee	OUEmployee	Organization	Employee	has as mem	belongs to	1:N	
IP range	$\pm$	RequesterD	RequesterDy	Employee	Dynamic child	is requester in	has as reque	1:N	
IT process area	$\pm$	RequesterIT	RequesterIT	Employee	IT Process	is requestor	has as reque	1:N	
IT process category	$\pm$	ServiceMan	ServiceMana	Employee	Service	is service m	has as servic	1:N	
► · · · · · · · · · · · · · · · · · · ·	Ŧ	ServiceOwn	ServiceOwne		Service	is service ow	has as servic	1·N	× ×

## There is the possibility of performing the following operations:

add a new domain	+ Add domain
search for the domain in the class	Search in grid 🗙
<ul> <li>expand the current row and display its data</li> </ul>	$\pm$
edit the selected domain (edit available information)	Ø
display the complete information related to the selected domain	ß
delete the selected domain (if not inherited and not containing data)	Ē
disable the selected domain (i.e. set the status as non-active)	0
move in the complete management of the selected domain	•

🗳 CMDBuild CMDBuild	d de	mo								SuperUser	- Â	⊞ 🕩	Þ
Navigation	•	Class	es										
<ul><li>☆ Home</li><li>✓ ■ Classes</li></ul>	^	<b>+</b> Ad	d class 🗧	🕒 Print schema 🛛 S	earch on all clas	sses and attribu	ites	Q X		C	Class: <b>Intern</b>	alEmploy	yee
🕶 🖿 Standard		Prope	<sup>rt</sup> Domai	in - AssigneeCl								~ >	۲.
Cluster		🕂 Ac	d — Gene	eral Attributes ——									^;
🕨 📄 Company		N	I Named	*				Description				184	
Configuration item			Assign	neeCl				AssigneeCl					^
🖹 Disk		_ /	, (35)B					/ Josephereel					
💌 📄 Employee		_	Origin	*				Destination *					
🖹 Customer empl		ſ	la Emplo	oyee		W	×	Configuration item			~	×	
🖹 External emplo		1	S: Direct o	Direct description				Inverse description					
🖹 Internal emplo	1		equip )r	pped with				assigned to					
🖹 Supplier emplo		E	n On orig	gin card delete		Ask user		On destination card dele	te		Ask user		
Form			Do no	ot delete if has relation	ns <b>- X</b>	confirm		Delete relation		- x	confirm		
🕨 📄 Form field			n Caulin	- 114							U		
📄 Grid - IP address (w		e		ality ^			-						
🖹 Grid - Purch. order		(	Dr									1	
Groups		[	Master	r detail				Label master detail					
lnfrastructure								Equipment					
IP range		(	a Show s	summary for									
🖹 IT process area			Attrib	ute î									
IT process category		I	1a Calaat	and a sheetlandar		_	-						$\checkmark$
	~	(					_				Save	Cancel	

Each domain requires the parameters (metadata) below to be compiled.

## 7.3.1. General properties

The following information is required:

- Name: domain class, that corresponds to the physical name of the table in the database
- Description: domain description, that has no real employment in the application and does not appear in the Management Module
- Origin: starting class of the relation (e.g. "Supplier")
- Destination: arrival class of the relation (e.g. "Asset")
- Direct description: relation characterization from the starting class to the arrival class (e.g. "has provided" the assets)
- Inverse description: relation characterization from the arrival class to the starting class (e.g. "provided by the supplier")
- In case of deletion of the original data card: don't delete anything else, delete only the relation, delete also the destination data card of the relation
- In case of deletion, ask confirmation to the operator: yes or no
- In case of deletion of the destination data card: don't delete anything else, delete only the relation, delete also the original data card of the relation ("cascade")
- In case of deletion, ask confirmation to the operator: yes or no
- Cardinality: a constraint on the number of times an entity can appear in a relation (1:1,1:N,

Concycl Attributes

N:1, N:N), used by the application to insert- new data

- Master Detail: it indicates whether managing the cards of the class linked on the "N" side to the Master Detail tab of the current class; in this case, in the Master Detail tab the list of "children" cards is displayed with the functions of inserting, editing and deleting
- Master Detail label: it allows you to specify the label of the button that manages the "children" cards for the current domain in the Master Detail tab
- Shows total for the selected attributes for the Detail class (only by number)
- Inline origin: states if, in the Management Module, the card list related to the original class have to be shown in the primary TAB instead of in the Master Detail TAB
- Closed default: in case you chose to view the origin cards in the inline mode, you can request the related fieldset to be shown as closed when you open the card
- Inline destination: states if, in the Management Module, the card list related to the destination class have to be shown in the primary TAB instead of in the Master Detail TAB
- Closed default: in case you chose to view the destination cards in inline mode, you can request the related fieldset to be shown as closed when you open the card
- Display condition: it allows you to specify a CQL filter that limits the number of displayed "children" cards

General Attributes							
Name *			Description *				
AssigneeCl		AssigneeCl					
Origin *			Destination *				
Employee	~	×	Configuration item	×			
Direct description *			Inverse description *	i			
equipped with			assigned to				
On origin card delete Ask user			On destination card delete Ask user				
Delete also related cards 🔹 🗶	confirm		Delete relation				
Cardinality *							
1:N		•					
Master detail			Label master detail				
			Equipment				
Show summary for							
Attribute 1							
Select an attribute	•	+					

• Active: the domain is active and can be used

#### Administrator Manual

Inline relation on origin	Closed inline relation on origin	Inline relation on destination	Closed inline relation on destination
View Condition (CQL)			
Active			

# 7.4. Layout TAB

The "Layout" TAB allows to define a custom layout for each class, in terms of number of rows, number and width of columns and positioning of attributes in the resulting cells.

The custom layout is defined separately for each group of attributes (fieldset).

CMDBuild CMDBuild de	mo	i SuperUser 🔻 🔔 🌐 🕞
Navigation •	Classes	
A Home	+ Add class 🖨 Print schema Search on all classes and attributes Q 🗙	Class: InternalEmployee
- Classes		
🕶 🖿 Standard	Properties Attributes Domains Layout Import/Export file Layers Geo attributes	
Cluster		~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~
E Company	General Data	
E Configuration item	· · · · · · · · · · · · · · · · · · ·	,, /
🖹 Disk	Code [Code] Number [Number]	
💌 📄 Employee	Last name [LastName] First name [FirstName]	
🖹 Customer empl		
🖹 External emplo		
📄 Internal emplo		
Supplier emplo	$\mathbf{\uparrow} \mathbf{\downarrow} \mathbf{\downarrow} \mathbf{\downarrow} \mathbf{\downarrow} \mathbf{\Box} \mathbf{X}$	
Form	Phone [Phone] Mobile [Mobile] State [State]	
Form field		
📄 Grid - IP address (w	+ Add row	
🖹 Grid - Purch. order		
Groups	Administrative Data	
🖹 Infrastructure		
IP range	+ Add row	Туре [Туре]
IT process area		Start of contract
IT process category		Save Cancel
► · · · · · · · · · · · · · · · · · · ·		

There is the possibility of performing the following operations:

create / edit the layout	Ø
delete the layout	圃
<ul> <li>disable the layout (i.e. set the status as non-active)</li> </ul>	0

## 7.4.1. Configuration of a custom layout

The definition of a custom layout implicates the following possibilities for each group of attributes (fieldset):

•	add a new row	+ Add row
•	remove a row	×

move a row up	<b>^</b>
move a row down	+
add a new column	+
remove a column	_
<ul> <li>edit the proportion among the configured columns</li> </ul>	33%, 33%, 33% 50%, 25%, 25% 25%, 50%, 25% 25%, 50%
<ul> <li>position one of the available attributes for that group (fieldset) into the layout (with the drag &amp; drop function)</li> </ul>	E-mail [Email] Mobile [Mobile] Phone [Phone] State [State]

Once saved, the layout will be automatically applied by CMDBuild into the Data Management Module both when displaying and editing a data card.

The data card for those classes without a custom layout will be displayed on two columns according to the organization defined in the Attributes TAB.

Any attributes not located in the layout will be displayed with the organization defined in the Attributes TAB.

# 7.5. Import / Export tab

The "Import / Export" tab displays the list of templates set in the system to execute import / export operations from file in an interactive way (they will be available in the contextual menu in the data Management Module) or in batches (configuring in this case a specific task in the Task Manager in this Administration Module).

Templates gather all the necessary information in order to automatize the operation in case of batch execution and to avoid the duty to specify every time a high number of parameters in case of an interactive execution.

🔆 CMDBuild CMDBuild demo 🐸 SuperUser 🖘 🗘 🎟 🕪										
Navigation •		Classes								
🖀 Home	^	🕂 Add class 🛛 🖨 Pri	nt schema	Search on all classe	s and attributes	;	Q <b>x</b>	Cla	ass: InternalEmpl	oyee
- Classes	12									
🕶 🖿 Standard		Properties Attribute	Domain	s Layout Impo	ort/Export file	Layers	Geo attributes			
Cluster	14	🕂 Add file template	Search on a	l import / export tem	plates O	<b>x</b>				
E Company		Class/Domain	Des	cription	Туре		File Format		Active	
Configuration item	e	InternalEmployee	Inte	rnal eployees list	Export		CSV		<b>S</b>	
Disk	6	□ InternalEmployee	Inte	rnalEploveesListIm	Import		CSV			
💌 🖹 Employee	10	····								
🖹 Customer empl		General propertie	General properties Attributes Import criteria Notifications							0
🖹 External emplo		Code *	Code * Description *							
📄 Internal emplo	4	InternalEployeesLi	tImport	port Int		InternalEployeesListImport				
🖹 Supplier emplo		Apply on *	Class/Domain * Internal employee		main *					
Form		Class			mployee					
Form field		Type *				File Form	at *			
📄 Grid - IP address (w		Import				CSV	14.6			
🖹 Grid - Purch. order		mpore								
Groups		CSV separator *				CSV enco	ding			
lnfrastructure		Semicolon				Default				
IP range		Active								
🖹 IT process area										
IT process category										
	~			11. 1-6-	C 11.0T					
			www.cmdb	ulia.org · Into ·	Copyright © 1	ecnoteca sri				

There is the possibility of performing the following operations:

create a new template	+ Add file template
search the template in the list	Search on all import / export templates <b>Q</b> X
<ul> <li>expand the current row and display its data</li> </ul>	$\pm$
edit the selected template	Ø
<ul> <li>display the complete information related to the selected template</li> </ul>	C <sup>*</sup>

clone the selected template	()
delete the selected attribute	匬
• disable the selected attribute (i.e. set the status as non-active)	0

Each domain requires the parameters (metadata) below to be compiled.

CMDBuild CMDBuild	l demo					嶜 SuperUser 🤝	Ţ	⊞	•
Navigation	<ul> <li>Class</li> </ul>	505							
倄 Home	^	Import - InternalEploye	esListImport						2° ×
- Elasses									^
🕶 🖿 Standard	Prop	Code *			Description *				
Cluster	+ /	InternalEploveesListImpor	t		InternalEploveesListImport				
🕨 📄 Company		Apply on *			Class *				-
🕨 📄 Configuration item		Class		~	Internal employee			~	
Disk		Type *			File Format *				
🕶 📄 Employee		Import		~	CSV			~	
🖹 Customer empl		CSV separator *			CSV encoding				
🖹 External emplo		Semicolon		~	Default		-	×	
🖹 Internal emplo	4	Active							- I
🖹 Supplier emplo									
🕨 📄 Form									
🕨 📄 Form field									
📄 Grid - IP address (w		Attribute	Column name	Mode	Default va	lue			
🖹 Grid - Purch. order		Code	Code	Default	Denuitite	and a second	•	$\mathbf{\Psi}$	×
🖹 Groups		First name	First name	Default		CH I	1	$\mathbf{\Psi}$	×
lnfrastructure		Last name	Last name	Default		SIN	1	$\mathbf{V}$	×
IP range		Select an attribute 🔻							+
IT process area									
IT process category									~
	~						Sav	/e	Cancel

For a complete description of the configuration mode, please see the related section of this manual.

# 7.6. Layers tab

The "Layers" tab displays the list of all geographical attributes available on the map for the current class.

It includes both layers made of geographic attributes of CMDB objects (room perimeters, computer positions, etc.) and layers loaded by external systems and available as "background" on the map for the current class (shape linked to the planimetry of a floor made by items which are not managed in CMDB such as walls, windows, stairs, etc.)

🗳 CMDBuild CMDBuild demo 🔮 SuperUser 🗸 🌐 🕪									↓ ⊞ 🕩		
Navigation 4	1	Classes									
A Home		+ Add class	🔒 Prii	it schema	Search on a	ll classes an	d attribute	'S	Q X	Class:	InternalEmployee
✓ ■ Classes											
👻 🖿 Standard	Ŀ	Properties /	Attribute	Domains	Layout	Import/E>	port file	Layers	Geo attributes		
🖹 Cluster											Carlo
Company		Description	Ref	erence class	Туре		Minimu	m zo	Maximum zo	Default zoom	Visibility
Configuration item		PositionNoteboo	ok No	ebook	Geomet	rv - POINT		18	25	18	
🖹 Disk	5	CPX01 TT01 F	Flo	or	Shape	,		18	25	18	
🔻 🖹 Employee		CPX01 TT01 F	Elo	)r	Shape			18		18	
🖹 Customer empl		Perimeter	Por	m	Geomet	nu - POI		19	25	19	
🖹 External emplo		Desition	Der	liton	Coomot	DOINT		10	25	18	
📄 Internal emplo	1	Position	De	кюр	Geomet	ITY - POINT		10	25	18	
Supplier emplo		Position	NO	ероок	Geomet	ry - POINT		18	25	18	
Form		Position	Bui	ding	Geomet	ry - POINT		6	17	6	
Form field		Shape	Flo	or	Shape			1	25	13	
🖹 Grid - IP address (w											
🖹 Grid - Purch. order											
🖹 Groups											
lnfrastructure											
🖹 IP range											
🖹 IT process area											
IT process category											
	•					1-6-		-			
				www.cmdbuil	a.org ·	1110 · C	opyright ©	recnoteca sr			

There is the possibility of performing the following operations:

	•	edit the visibility of the layers available for the current class	<b>A</b>
--	---	---	----------

When clicking on the edit icon, you will enter the list of layers and for each one you can edit the visibility, as shown in the following screenshot.

🗳 CMDBuild demo 🖀 SuperUser 🖛 🗘								
Navigation •		Classes						
👚 Home	^	🕂 Add class 🔓	Print schema	arch on all classes an	d attributes	Q ×	Class:	InternalEmployee
- Classes								
🕶 🖿 Standard	t.	Properties Attri	butes Domains	Layout Import/E>	kport file Layers	Geo attributes		
Cluster								
Company		Description	Reference class	Туре	Minimum zo	Maximum zo	Default zoom	Visibility
Configuration item		PositionNotebook	Notebook	Geometry - POINT	18	25	18	
Disk	5	CPX01 TT01 E	Floor	Shape	18	25	18	
🔻 📄 Employee		CPX01_TT01_E	Floor	Shape	18	25	18	
🖹 Customer empl		Perimeter	Room	Geometry - POI	18	25	18	
🖹 External emplo		Position	Desktop	Geometry POL	10	25	10	
🖹 Internal emplo	1	Position	Netebook	Geometry - POINT	18	25	10	
Supplier emplo		Position	NOLEDOOK	Geometry - POINT	18	25	18	
🕨 📄 Form		Position	Building	Geometry - POINT	6	17	6	
Form field		Shape	Floor	Shape	1	25	13	
📄 Grid - IP address (w								
🖹 Grid - Purch. order								
Groups								
Infrastructure								
🖹 IP range								
🖹 IT process area								
IT process category								Save Cancel
	~		www.cmdbuild	org · Info · C	opyright © Tecnotece s	rl		
			www.cmabana.	0.6 0.0 0	opproprie recircled a			

# 7.7. Geographic attributes tab

The "geographical attributes" tab allows you to manage the geographic attributes of the selected class.

CMDBuild CMDBuild	ild demo 😤 SuperUser	· 🗘 🎟 🕩
Navigation	Classes	
Organizational unit	Add class	Class: Building
Purchase order	Properties Attributes Domains Layout Import/Export file Layers Geo attributes	
Purchase order row	+ Add attribute Search in grid X	
Service category	Description Type Minimum zoom Maximum zoom Default zoom	Active
Service contract	E Position Geometry - POINT 6 17 6	S.
Service request	General properties InfoWindow Spacific properties	<b>∥ ெ⊓ ⊨ ⊘</b>
▼ 🖹 Site	General properties	
Building	Type *	
E Complex	Geometry	
E Floor	Name * Description *	<b>[</b> 40
Room	Position Position	
Software catalogue	Minimum zoom Maximum zoom	
Users	6 17	
Virtual IP	A second s	
🕨 📄 Workorder template	e C	
Simples	6	
Processes	Active	
🕨 🖿 Domains		
🕨 🖿 Lookup types		
Views		
· · · ·	V Internet and Internet in the American Americ	

There is the possibility of performing the following operations:

create a new geographic attribute	+ Add attribute
search for the geographical attribute in the class	Search in grid 🗙
<ul> <li>expand the current row and display its data</li> </ul>	$\pm$
edit the selected attribute (edit available information)	e de la constanción de
display the complete information related to the selected attribute	C.
clone the selected attribute	Ē
delete the selected attribute (if not inherited and not containing data)	Ē
disable the selected attribute (i.e. set the status as non-active)	0

Each geographical attribute requires the parameters (metadata) below to be compiled.

#### 7.7.1. General properties

The following information is required:

- Type: geometry (point, open polygonal, closed polygonal) or shape (background file)
- Name: attribute name, that corresponds to the physical name of the database column
- "Description": used to report the attribute name in the application
- Minimum zoom: the minimum zoom level required to display the current attribute
- Maximum zoom: the maximum zoom level required to display the current attribute
- Default zoom: the zoom level required to open the map at startup displaying the current geographical attribute
- Active: the attribute is active and can be used

deneral properties **	
Туре *	
Geometry	
Name *	Description *
Position	Position
Minimum zoom	Maximum zoom
6	17
Default zoom	
6	
Active	

## 7.7.2. Specific properties

For the Geometry type attributes the following information is required:

- Type of geographical attribute, which can be:
  - Line

Conoral properties

- Point
- Polygon

Here's the additional information, differentiated according to the type of geographical attribute.

#### Line attributes

For Line attributes this additional information is required:

• Stroke dashstyle: dot, dash, dashdot, longdash, longdashdot, solid

- Stroke color
- · Stroke opacity
- Stroke width: from 1 to 10

Specific properties ^	
Туре	
LINE	
Strike dashstyle	Stroke color
Solid	#000000 - *
Stroke opacity	Stroke width
II 100	1

## **Point attributes**

For Point attributes this additional information is required:

- Fill opacity
- Fill color
- Point radius: the size of the icon
- Icon: the name of the icon (which should be loaded using GIS pages in the Administration Module) to display on the map
- Stroke dashstyle: dot, dash, dashdot, longdash, longdashdot, solid
- Stroke color
- Stroke opacity
- Stroke width: from 1 to 10

— Specific properties ^					
Туре					
POINT	-				
Fill opacity		Fill color			
	100	#F1C232	•	×	
Point radius		lcon			
20	-	Building.png	•	×	
Strike dashstyle		Stroke color			
Solid	•	#000000	•	×	
Stroke opacity		Stroke width			
	100	1			-

## Polygon attributes

For Polygon attributes this additional information is required:

- Fill opacity
- Fill color
- Stroke dashstyle: dot, dash, dashdot, longdash, longdashdot, solid
- Stroke color
- Stroke opacity
- Stroke width: from 1 to 10

Туре					
POLYGON	-				
Fill opacity		Fill color			
	100	#000000	-	×	
Strike dashstyle		Stroke color			
Solid	-	#000000	-	×	
Stroke opacity		Stroke width			
	100	1			

# 7.7.3. Infowindows

You can enable the display of a box containing text and/or images on a map, in correspondence of the selected element.

The following information is required:

- Enabled
- Images: you can select a File attribute to get the image for the infowindow
- Content: text to be inserted into the box, written with CQL, the CMDBuild templating language

- InfoWindow ^	
Enabled	
Image	
Content	
<strong>{attrLabel:AttrName}:</strong> {card:Description}	

## 7.7.4. Visibility

Here's a part of classes configured in the system, represented hierarchically (at the first level the not-inherited superclasses and classes, then the first-level subclasses, the second-level ones, etc.) with the possibility of specifying on which classes the current geographical attribute has to be visible.

VISIDIIILY	
Classe	25
🗖 🗁 St	andard
	BBB
$\checkmark$	🕅 🖹 Building
	] 🖹 Cluster
	) 📠 Company
	E Corporate group
	C 🖹 Customer
	B Supplier
	Configuration item
	Grid - Asset
-	Hardware
	🗖 🔲 💼 Client hardware
	🖨 🔲 💼 Client peripheral
	Monitor
	Printer
	🗖 🗖 💼 Computer
	Desktop
	D D Mobile
	B Notebook

# 8. Processes

A process (o workflow) is a sequence of activities and each of these can be handled by operators with different roles. Each activity represents an action to reach a pre-defined aim.

In CMDBuild the Administration Module allows you to define the data structure for the information persistence managed in the workflow; the visual editor TWE allows to design its flow (see the paragraph 2.4.2); the Management Module offers to operators the forms that have to be compiled for the process advancement.

# 8.1. Properties tab

The "Properties" tab allows you to create new processes and edit the old ones.

The definition of the data structure of a process is similar to the definition of the data structure of a class, as described in the previous chapter.

Hereinafter the specific features of processes will be described and the features of a normal class not applicable to processes and the specific additions of the processes will be highlighted.

CMDBuild CMDBuild d	emo	嶜 SuperUser 👻 🏛 🕩
Navigation •	Processes	
A Home	+ Add process 🔒 Print schema Search on all processes and attributes Q 🗙	Process: AssetMgt
Classes	Duranting Attributes Demains Tasks Lauguts Fugert Heles	
🕶 🖿 Processes	Properties Attributes Domains Tasks Layouts Export Helps	
🏶 Asset management		Version 👻 💾 👻
Dynamic child	General properties	^
Incoming email manag	Name	
IP Addresses manage	AssetMat Asset management	
🕨 🏟 IT Process	Asset management	
IT process extra manag	Inherits from Superclass	
QR Code Generator	Default	
SLA IT Process	Hide "Save" button	
Wiring management		
Domains	Active	
Lookup types	₩.	
Views		
🕨 🖿 Search filters		
Dashboards	Process parameters A	
🕨 🖿 Reports	State attribute Message attribute	
Menus		
Custom pages	Default filter Default template for dat	a export
Custom components		
	www.cmdbuild.org · Info · Convright © Tecnoteca srl	~

All operations are available for the classes, including the following one:

download the XPDL file in the chosen version	📩 Version 🔻
	2
	1

The download feature allows you to export the XPDL template to start working on the process structure using an external editor (TWE).

The exported file includes:

- process name
- list of attributes process
- the list of users' groups defined in CMDBuild, among which you can choose the "actors" (roles) that take part in the process
- data type description for custom Lookup, LookupArray and Reference attributes, which can be used in the process scripts

Also the processes require several parameters to be compiled (metadata), divided into various sections.

#### 8.1.1. General properties

Regarding the class definition, the following information is required for processes:

- Stoppable by user: if enabled, it makes available an additional button that interrupts the process (independently of its status)
- Hide "Save" button: you do not see the button to save the current status of the process before proceeding to the following status

The following information is not managed:

• Type, which can take the Standard and Simple values

General properties	
Name	Description *
AssetMgt	Asset management
Inherits from	Superclass
Default	× 🗆
Stoppable by User	Hide "Save" button
Active	

#### 8.1.2. XPDL file

It allows to import the process XPDL descriptor designed with the external editor TWE (Together Workflow Editor).

F	ile:	
	Select an XPDL file	Browse

## 8.1.3. Other process parameters

The following information is required:

- State attribute: it allows to specify which process attribute (among the Lookup types) graphically represents (on the top of the card) the advance status of the process in the Management Module
- Message attribute: it allows to specify which process attribute is used to display error messages, locating it under the status representation
- Default filter: it allows you to specify the default filter (selected among the filters defined for that process in the specific function) that has to be applied in the list of process instances
- Default template for export: it allows to specify the default template in order to execute the export of data from the current process, which must already be configured
- Help text: available for operators in the Management Module, just like for classes

The advancement card of a process instance is characterized by another important information related to the action. Since the corresponding attribute is specific for each step of advancement process, CMDBuild requires that it is specified within the XPDL descriptor. In case the advancing action is univocal for the current step (i.e. the operator has no multiple choices), on the user interface there will be the text "Proceed" as non-editable.

From the version CMDBuild 3.4 the execution workflow engine is Tecnoteca River. The option Enhydra Shark is no longer available.

State attribute		Message attribute		
	- X		-	×
Default filter		Default template for data export		
	- x		-	×
Help text				ļ
$B I \underline{U}   \underline{I} \bullet   \underline{E} \bullet   \underline{E} \bullet $		\$\$   ≟≡   <b>*</b>   <b>⊿</b>   <b>∡</b> *		

## 8.1.4. Other sections

Sections related to the management of Attachments, Data Organization, Grouping of attributes, form trigger, Configuration of Contextual Menus and Contents are managed as for Classes. For further details read the relative paragraphs.

The following sections are not available for processes:

- Validation rules (since managed in the scripts of the XPDL file)
- Form trigger (since managed in the scripts of the XPDL file)
- Form widget (since managed in the scripts of the XPDL file)

# 8.2. Attributes tab

The Attributes tab allows you to manage the attributes of the selected process.

The managed information is the same as described for Classes. For further details, please read the relative paragraph.

CMDBuild CMDBuild c	dem	10							🖀 Sup	erUser 👻	↓ ■	•
Navigation •		Processes										
😤 Home	<u>`</u>	🕂 Add process 🛛 🔒 🖡	Print schema	Search	n on all process	es and at	tributes	Q			Process: Asse	≥tMgt
Elasses	12											
✓ ■ Processes	H	Properties Attribute	s Domains	Task	s Layouts	Export	Helps					
Asset management		+ Add attribute Sea	arch in grid		×					l.	nclude Inherite	ed: 🗹
🕨 🏶 Dynamic child		Name	Description		Туре	Sh	iow in g	Unique	Mandatory	Active	Mode	
Incoming email manag		🗄 Code	Activity Nam	e	STRING						Editable	^
IP Addresses manage		Description	Description		STRING						Editable	
IT Process	L a	CreationTimesta	Creation time	estamp	TIMESTAMI	D					Editable	
IT process extra manag	U.											
QR Code Generator		General propertie	s Type prop	erties	Other propert	ies						0
SLA IT Process		Name					Descrip	tion				
🏶 Wiring management		CreationTimestamp	0				Creatior	n timestamp				
Domains	۰.	Group					Mode					
🕨 🖿 Lookup types							Editable					
Views		Show in grid					Showin	roducod grid				
Search filters								r reduced grid				
Dashboards												
🕨 🖿 Reports		Unique										
🕨 🖿 Menus												
Custom pages		Hide in filter										
Custom components												
	-		www.cmdbuild	d.org ·	Info · _ C	opvright ©	Tecnoteca	rl				~

# 8.3. Task tab

The function allows you to display any Tasks (chapter 20) already configured to start automatically the processes, or configure new ones.

CMDBuild CMDBuild d	lemc		嶜 SuperUser 🔻 🔔 🎟 🕩
Navigation •	Р	rocesses	
Home Classes Processes	F	Add process     Print schema     Search on all processes and attributes     Q       rroperties     Attributes     Domains     Tasks     Layouts     Export     Helps	Process: <b>AssetMgt</b>
🌣 Asset management	l R	Add task 🔻 Search in grid 🗶	Service status: 🗢 Not running 🕼
<ul> <li>Dynamic child</li> <li>Incoming email manag</li> <li>IP Addresses manage</li> </ul>	ŀ	Step 1 of 2 - New Task - Example task General properties ^	2° X
IT Process		Name * Description *	
IT process extra manag		ExampleTask Example task	
QR Code Generator	4	Process Job username	
SLA IT Process		Asset management 💌	
Wiring management		Process attributes	
Domains		Name   Value	
🕨 🖿 Lookup types			
Views		·	+ …
Search filters			
Dashboards			
Reports			
🕨 🖿 Menus			
Custom pages			
Custom components			
· Four	/	Prev Next	Save Cancel

# 8.4. Other tabs

The information managed in the tabs Domains, Layout and Export are the same as described for Classes.

For further details, please read the corresponding paragraphs.

The Help TAB allows you to insert a help text suitable for each process step.

# 9. Domains

A domain in CMDBuild includes all couples of elements of the CMDB (data cards of configuration items) which are linked thanks to a specific correlation, for example "supplier supplies assets", "user uses job roles", "computer installed software", etc.

A domain is also defined by a couple of classes, by a description of the relation in two directions and by its cardinality.

A domain can be enriched by attributes (similar to a class, excluding the "Reference" type and geographical attributes) and requires a table in the CMDBuild database in order to file the included relations (also in case of cardinality 1:N).

# 9.1. Properties tab

The "Properties" tab allows you to create new domains and edit the old ones.

CMDBuild CMDBuild	den	าด					曫 SuperUser 👻 🤉	\$ ⊞	9	Þ
Navigation 4		Domains								
🖀 Home 🥤	^	+ Add domain Search on all	domains and a	attributes	Q :	×	Do	main: B	uildir	ngCl
Classes										
Processes	1.	Properties Attributes Enal	oled classes	Import/Export file						
🕶 🖿 Domains								d	<b>Þ</b>	0
AdditionalManagerOU		General Attributes								^
AdditionalServiceCateg									1	
I APNSIM		Name Duildin - Cl				Description				
III ApplicationComponent		BuildingCi				BuildingCi				
I ApproverOUServiceReq		Origin				Destination				
ApproverRoleServiceReq		Building				Configuration item				
I ApproverSuggEmpl	4	Direct description			1000	Inverse description			1	
I ApproverSuggOp		contains equipments			p-o-	located into building			p-s	
I AssetMgtCl										
III AssigneeCl		On origin card delete		Ask user		On destination card delete	Ask	user		
I BuildingCl		Do not delete if has relations				Delete relation		IIIIII		
I BuildingFloor		Cardinality								
III BuildingRoom		1:N								
I BusinessContactService										
I CategoryITClassification		Master detail								
III CategoryService										
I ChangeMgtCMWorkOrd		Inline relation on origin	Closed inlin	ne relation on origi	n	Inline relation on destination	Closed inline relation destination	on		
	~									~

There is the possibility of performing the following operations:

•	add a new domain		+ Add domain			
•	do searches on configured domains		Search on all domains and attributes <b>Q</b>			

edit the selected domain	ø
<ul> <li>delete the selected domain (physical removal if not containing data, otherwise logic)</li> </ul>	節
<ul> <li>disable the selected domain (i.e. set the status as non- active)</li> </ul>	0

Each domain requires several parameters to be compiled (metadata), which are included in the section of the general properties.

## 9.1.1. General properties

The following information is required:

- Name: domain class, that corresponds to the physical name of the table in the database
- Description: domain description, that has no real employment in the application and does not appear in the Management Module
- Origin: starting class of the relation (e.g. "Supplier")
- Destination: arrival class of the relation (e.g. "Asset")
- Direct description: relation characterization from the starting class to the arrival class (e.g. "has provided" the assets)
- Inverse description: relation characterization from the arrival class to the starting class (e.g. "provided by the supplier")
- In case of deletion of the original data card: don't delete anything else, delete only the relation, delete also the destination data card of the relation
- In case of deletion, ask confirmation to the operator: yes or no
- In case of deletion of the destination data card: don't delete anything else, delete only the relation, delete also the original data card of the relation ("cascade")
- In case of deletion, ask confirmation to the operator: yes or no
- Cardinality: a constraint on the number of times an entity can appear in a relation (1:N, N:1, N:N), used by the application to insert- new data
- Master Detail: it indicates whether managing the cards of the class linked on the "N" side to the Master Detail tab of the current class; in this case, in the Master Detail tab the list of "children" cards is displayed with the functions of inserting, editing and deleting
- Master Detail label: it allows you to specify the label of the button that manages the "children" cards for the current domain in the Master Detail tab
- Inline origin: states if, in the Management Module, the card list related to the original class have to be shown in the primary TAB instead of in the Master Detail TAB
- Closed default: in case you chose to view the origin cards in the inline mode, you can request the related fieldset to be shown as closed when you open the card
- Inline destination: states if, in the Management Module, the card list related to the destination class have to be shown in the primary TAB instead of in the Master Detail TAB
- Closed default: in case you chose to view the destination cards in inline mode, you can request the related fieldset to be shown as closed when you open the card

- Display condition: it allows you to specify a CQL filter that limits the number of displayed "children" cards
- Active: the domain is active and can be used

— General Attributes ———						
Name *			Description *			
BuildingCl			BuildingCl			
Origin *			Destination *			
Building		- ×	Configuration item			×
Direct description *			Inverse description *			
contains equipments			located into building			
On origin card delete		Ask user	On destination card delete		Ask user	
Do not delete if has relations	- X		Delete relation	- X	confirm	
Cardinality *						
1:N						
Master detail						
Inline relation on origin	Closed inline re	elation on origin	Inline relation on	Closed inline re	lation on	
			destination	destination		
view condition (CQL)						
Active						
Active						

# 9.2. Attributes tab

The "Attributes" tab allows you to manage the domain attributes.

The management of attributes on domains is similar to the management of attributes on classes. But the Reference attribute is not available (otherwise the situation would be recursive).

For detailed information regarding the attribute configuration please read the corresponding chapter.

CMDBuild CMDBuild de	mo	嶜 SuperUser 🤝 🏛 🕞
Navigation •	Domains	
A Home	+ Add domain Search on all domains and attributes Q X	Domain: BuildingCl
Classes		
Processes	Properties Attributes Enabled classes Import/Export file	
🕶 🖿 Domains	+ Add attribute Search in grid X	Include Inherited: 🗹
AdditionalManagerOU	Name	
AdditionalServiceCateg	New attribute	£ 8.
I APNSIM	General properties ^	
III ApplicationComponent	Name * Description *	~
ApproverOUServiceReq	Role	
ApproverRoleServiceReq	. Mode *	
I ApproverSuggEmpl	Editable	
I ApproverSuggOp	Show in main form	
I AssetMgtCl		
I AssigneeCl	Unique Mandatory	
I BuildingCl		
I BuildingFloor	Hide in filter	
I BuildingRoom		
I BusinessContactService	Active	
I CategoryITClassification		
E CategoryService		
ChangeMgtCMWorkOrd	Type properties ^	~
		Save Save and add Cancel
# 9.3. TAB Enabled classes

The TAB "Enabled classes" allows you to disable a domain defined on a superclass on one or more subclasses.



# 9.4. Import / Export tab

The "Import / Export" tab displays the list of templates set in the system to execute interactive import / export operations or batches.

The management is similar to that described in the Import / Export TAB of classes.

For detailed information regarding the template configuration please read the corresponding chapter.

CMDBuild CMDBuild	d de	mo					嶜 SuperUser 👻 🏛 🕼
Navigation	•	Domains					
A Home	^	🕂 Add doma	ain Search on a	ll domains and attributes	Q <b>x</b>	]	Domain: AdditionalManage
Processes		Properties	Attributes Ena	abled classes Import/Export	file		
- Domains		+ Add file te	emplate Search	on all import / export template	a Q	×	
I Additional Manager OU		Class/Dr	lasa satu lasa s				
AdditionalServiceCateg			import - impo	rtRelationsManagerOu			× ×
I APNSIM			General prop	erties ^			
I ApplicationComponent			Code *			Description *	
ApproverOUServiceReq			ImportRelation	sManagerOu		ImportRelationsManagerC	Ju
I ApproverRoleServiceReq			Apply on *			Domain *	
I ApproverSuggEmpl	4		Domain		-	AdditionalManagerOU	-
III ApproverSuggOp			Type *			File Format *	
III AssetMgtCl			Import		~	CSV	-
I AssigneeCl			CSV separator *			CSV encoding	
III BuildingCl			Pipe		-	Default	- X
III BuildingFloor			Active				
III BuildingRoom							
BusinessContactService							
CategoryITClassification			Attributes ^				
CategoryService			Attribute	Column name	Mode	Default va	lue
III ChangeMgtCMWorkOrd			ldObj1	Employee	Id		
	~						Save Cancel

# 10. Lookup lists

CMDBuild uses the Lookup lists so that an attribute shows up as a selection with predefined options. Lookup lists can be used for both single-choice and multiple-choice Lookup attributes.

Therefore, the user must select one or more options from the list of values available, so that some information can be standardized.

For single-choice lookup attribute, you can create multi-level lookup attributes.

# 10.1. Properties tab

The "Properties" tab allows you to create new Lookup lists and edit the old ones.

CMDBuild' CMDBuild	l der	mo	🕍 SuperUser 👻 🏳 🖽 🕞
Navigation	•	Lookup types	
E CI - Availability	^	+ Add lookup Search on all lookup types and values Q 🗙	List: Country
🌐 Cl - Brand	н.	Lookup List Values	
🖽 Cl - State			<u></u>
III CIEmployee - Role			<u>۳</u>
III CIReportClass		General properties	
🌐 ChangeMgt - AnalysisA		Name *	
III ChangeMgt - ClosureA		Country	
🌐 ChangeMgt - Exec Action		Burnet	
🌐 ChangeMgt - SPAnalysi		Parent	
🌐 ChangeMgt - SPClassifi	4		
🌐 ChangeMgt - StartAppr			
🌐 ChangeMgt - Susp Action			
III Country			
III CustomPage - FieldsetT			
🌐 CustomPage - Generall			
I CustomPage - RefreshT			
🌐 CustomPage - SLAChart			
I CustomPage - StatusCh			
I Dashboards - ProcessS			
I DesktopDevice - Type			
💷 DynChild - Message	~		
		www.cmdbuild.org · Info · Copyright © Tecnoteca srl	

There is the possibility of performing the following operations:

add a new lookup list	+ Add lookup
do searches on Lookup lists	Search on all lookup types and values <b>Q</b> X
<ul> <li>delete the selected Lookup list (physical removal if not containing data, otherwise logic)</li> </ul>	<u>ش</u>

Each Lookup list requires the parameters (metadata) below to be compiled.

## 10.1.1. General properties

The following information is required:

- Name: name of Lookup list
- Parent: selection of any parent Lookup list in order to define hierarchical lists

General properties		
Name *		
Parent		
	-	×

# 10.2. Values TAB

The Values tab allows to define entries that operators can choose to enhance the attribute associated to the selected Lookup list.



There is the possibility of performing the following operations:

add a new entry in a lookup list	+ Add value
<ul> <li>do searches on entries of the Lookup list</li> </ul>	Search in grid 🗙
edit the selected Lookup entry	<b>A</b>
display the selected Lookup entry	2
delete the selected Lookup entry	Ē
disable the selected Lookup entry (i.e. set the status as non-active)	0

Each Lookup list requires some parameters (metadata) to be compiled, as mentioned below.

🗳 CMDBuild 🛛 CMDBuild	l den	וס			嶜 SuperUser 👻	¢	▦	•
Navigation	•	Cl - State - In use					23	۲.
A Home	^	General properties ^						ate
Classes		Code *		Description *				
Processes		InUse		In use				
🕨 🖿 Domains		Parent description		Text color				
🕶 🖿 Lookup types	1			#800000	~	×		
I Application - Type	-	Notes						~
🌐 Approval - Type								
I AssetMgt - DstStatus								
I AssetMgt - GRAssetsAc								
I AssetMgt - GRHeaderA		Artive						
I AssetMgt - Type	•							
I AssetMgtCl - Direction		_						
III CI - Availability		Icon ^						_
III CI - Brand								
🖽 Cl - State		Icon type	_					
I CIEmployee - Role		Font	•					
I CIReportClass		Icon *	ፈ	Icon color *				
🌐 ChangeMgt - AnalysisA		x-ta fa-thumbs-o-up		#800000	•	~		
I ChangeMgt - ClosureA								
I ChangeMgt - Exec Action								
I ChangeMgt - SPAnalysi	-							-
	~				s	ave	Cancel	

#### 10.2.1. General properties

The following information is required:

- Code: it is the univocal identification code within the selected Lookup list. It can be used from some system automatisms in order to recognize that Lookup entry (we suggest you not to edit it after defining it since you can work on the Description)
- · Description: Lookup description, it appears in the multiple-choice list
- Parent description: selection of the entry in the parent Lookup list to link the current entry, in case of defining hierarchical lists
- Text color: usable to highlight interesting information (such as the status of an asset or of a process)
- Notes: free field for administrator's notes (it does not appear in the Management Module)
- Active: the Lookup entry is active and can be used

Code *	Description *	1
InUse	In use	
Parent description	Text color	
	<b>#</b> 993300	- x
Notes		

### 10.2.2. Icon

The following information is required:

- Type: font or picture
- Font: in case the icon is made by a font, you are required to select it among the suggested ones
- Icon color: in case the icon is made by a font, you are required to choose its color among the suggested ones
- Picture: in case the icon is made by a picture, you are required to select it in the file system in order to upload it into the system

lcon ^					
con					
Font			▼		
con			lcon color		
x-fa fa-thumbs-o-up	•	× 🖒	#993300	-	×

# 11. Views

Through the views mechanism, not-corresponding groups of cards of a class can be provided to users.

Views can be defined in three ways:

- through a filter, i.e. as subsystems of cards in the same class / process to which a filter has been applied
- through visual join among classes, with selection of attributes and filters
- through SQL query, i.e. as cards filed in various classes / processes extracted through a database function

In the first case they keep their common functionalities, in the second and third ones they are Read Only.

Despite the permissions with filters on rows, that exclude the consultation of the related information, the views based on the filter, the operator can decide to remove the filter and display the complete information of the current class / process.

Finally, it is possible to define views on the Scheduling file.

# 11.1. Views based on filters

The function allows you to create new views based on filters and edit the old ones.



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There is the possibility of performing the following operations:

add a new view list	+ Add View
edit the selected view	Ø
delete the selected view	ŵ
<ul> <li>disable the selected view (i.e. set the status as non-active)</li> </ul>	0

Each view needs some parameters to be compiled (metadata), as mentioned.

## 11.1.1. General properties

The following information is required:

- Activity name
- Description

General properties ^ -

- Target class: original class or process
- Active: the view is active and can be used

Namo *		
ActiveEmployee		
Description *		ļ
Active employee		
Target class *		
Internal employee	~	×
Filters		
<b>T X</b>		
Active		

This form shares the following icons:

•	filter configuration	T
•	filter cancellation	X

### 11.1.2. Filters

The ways of setting a filter are similar to those used in the Data Management Module (User Manual chapter 8.1) to set a filter on the attributes of a class.

There is the possibility of performing the following operations, also many times:

<ul> <li>choose an attribute where the filter condition can be applied to. After this, a row with that attribute is added and you can set the filter</li> </ul>	Choose an attribute Administrative Data Company End of contract Organizational unit Start of contract Type General Data Code E-mail First name
choose an operator that depends on the type of attribute	State          Operator         Equals         Equals         Different         Is null         Is not null         Description contains         Description begins with         Description does not contain         Description begins with         Description does not begins with
<ul> <li>digit (in case of strings or numbers) or choose (in case of references or lookups) a value</li> <li>delete a set filter condition</li> <li>apply the filter</li> </ul>	Value Active Active Non-active Suspended
delete the operation	Close

A filter can have more conditions. Any multiple conditions applied to the same attribute will be considered in "OR", while the conditions applied to different attributes will be considered in "AND".

# 11.2. Views based on join

The function allows you to create new views based on join and edit the old ones.

CMDBuild CMDBuild de	emo		📽 SuperUser 🔻 🔔 🛽	∎ 🕩
Navigation •	Views - From join - Cl with location - Step 1 of 6			
Home     Home     Classes	+ Add view Properties Layout			
Domains				D 🗊
<ul> <li>Lookup types</li> <li>Views</li> </ul>	— General properties —	Description		
<ul> <li>E From filter</li> <li>From join</li> </ul>	CIWithLocation	Cl with location		
Cl with location  From SQL	Master class Cl	Master class alias Cl		
From schedule     Search filters	<pre>4 Active</pre>			
Dashboards     Reports	Context menu (0) Y			
Menus				
Custom components				
DMS     Navigation trees				
Groups and permissions	Prev Next			
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There is the possibility of performing the following operations:

add a new view list	+ Add View
edit the selected view	Ø
delete the selected view	Ŵ

#### 11.2.1. Properties tab

The Property TAB needs some parameters to be compiled through the wizard, as mentioned below.

#### <u>Step 1</u>

#### **General properties**

The following information is required:

- Activity name
- Description

**General properties** 

- Master class: original class
- · Master class alias: original alias class
- · Active: the view is active and can be used

Name *		Description *	j <b>e</b> e
CIWithLocation		Cl with location	
Master class *		Master class alias *	
Configuration item	- X	CI	
Active			

#### **Contextual menu**

You can configure a contextual menu with the same configuration modes of contextual menus on classes.



#### Step 2

#### Join definition

You can select the join modes among the classes through the class tree reached by "domains" 1:N starting from the root class.

For each linked class you can define an alias and the type of join (inner join or outer join).

In the example, starting from the CI class joins with Room have been defined, and then Floor and Building.

— Domains of Configuration item

		<b>-</b>	
Domain	Class	larget class allas	Join type
🕒 🗋 affected by [IT Process]			
🗈 🗋 🗅 assigned to [Employee]			
🗈 🔲 🗀 belongs to infrastructure [Infrastructure]			
🕒 🗋 depends on [Configuration item]			
🖪 🔲 🗀 has as contact people [Employee]			
🕒 🗋 🗀 is additionally supplied by [Supplier]			
🛢 🗹 🗁 is placed in [Room]	Room	Room	Outer join
🕒 🗋 🕒 belongs to [Building]			
🕒 🗋 belongs to [Complex]			
🗖 🗹 🗁 belongs to [Floor]	Floor	Floor	Outer join
🛢 🗹 🗁 belongs to [Building]	Building	Building	Outer join
🕒 🗋 🗀 belongs to [Complex]			
🖪 🔲 🗀 contains equipments [Configuration item]			
🛃 🔲 🗀 has [Floor]			

#### <u>Step 3</u>

## Definition of attributes groups (fieldset)

You can define filedsets to group class attributes in joins.

Fieldsets					
Group	Display mode				
CI	Open	Τ	$\mathbf{\Psi}$	×	<b>i</b>
Location	Open	Ϯ	¥	×	
Create new group	Display mode				
	Open 💌	 	•••		+

Please refer to the process used for grouping attributes in the classes.

## <u>Step 4</u>

#### Attribute selection

You can select class attributes in joins and make them available in the view.

For each attribute you can set an alias (Description), the relating fieldset, and you can decide if displaying it in the standard grid and if displaying it in the reduced grid (mobile interface).

Δt	tributes				
~	cristics				
	Attribute	Description	Group	Show in grid	Show in reduced grid
	Attributes of: Cl				
	Acceptance date				
	Assignee	Cl assegnee	CI		
	Availability	Ci availability	CI		
	Brand	CI brand	CI		
	Building				
	Code	CI code	CI		
	Company				
	Complex				
	Delivery date				
	Description	Ci description	CI		
	Disposal date				
	Floor				
	Model	CI model	CI		

## <u>Step 5</u>

## Filters

You can define filters on selected attributes, in order to restrict the view output. Please refer to the config of filter views.

Filters			
Choose an attribute	-		
Cl.Supplier			
Operator		Value	
Equals	▼	Eiva [EIVA]	<b>- ×</b> Q ₪
Building.Country			
Operator		Value	

## <u>Step 6</u>

## Data organization

You can define the organization of view data.

Please refer to the processes of class data organization.

— Data sortings —		
Attribute	Direction	
Cl.SerialNumber	Ascending	<i>ĕ</i> ↑ ↓ ×
	<ul> <li>Ascending</li> </ul>	-

## 11.2.2. Layout TAB

Also for views from join you can define a custom layout, in terms of number of rows, number and width of columns and positioning of attributes in the resulting cells.

Please refer to the process of defining the class layout.

CMDBuild CMDBuild de	emo	🐸 SuperUser 🔻 🔔 🏢 🕩
Navigation •	Views - From join - Cl with location - Step 1 of 6	
A Home	+ Add view	
Classes		
Processes	Properties Layout	
Domains		¥
🕨 🖿 Lookup types	CI	^
🗝 🖿 Views	· + + -	□ ¥
From filter	Cl serialnumber [Seria Cl code [Code]	Ci availability [Availability]
🕶 🖿 From join		Cl warranty end date
III Cl with location	<b>↑ ↓ + −</b>	
From SQL	Ci description [Description]	
From schedule	★ ↓ + −	m×
Search filters	Cl assegnee [Assignee] Cl supplier [Supplier]	
> 🖿 Dashboards	CI brand [Brand] CI model [Model]	
🕨 🖿 Reports		
🕨 🖿 Menus	+ Add row	
🕨 🖿 Custom pages		1
Custom components	Location	
DMS		
Navigation trees	+ Add row	Floor code [Code_2]
Groups and permissions		Building description [Description 3]
Users		Save Cancel
a line as any a	www.cmdbuild.org · Info · Copyright © Tecnoteca srl	

# 11.3. Views based on SQL

The function allows you to create new views based on SQL and edit the old ones.

CMDBuild CMDBuild	d dei	mo	i SuperUser 🔻 🔔 🖽 🕩
Navigation	•	Views - From SQL - Expiring warranty	
倄 Home	^	+ Add view	
Elasses			
Processes		General properties A	
🕨 🖿 Domains		Name *	
🕨 🖿 Lookup types		ExpiringWarranty	
🕶 🖿 Views		Description *	
🕨 🖿 From filter		Expiring warranty	
🕨 🖿 From join		Function *	
🕶 🖿 From SQL		cmf_warrantycheck	
💷 Expiring warranty		Active	
From schedule			
Search filters			
🕨 🖿 Dashboards			
🕨 🖿 Reports			
🕨 🖿 Menus			
Custom pages			
Custom components			
DMS			
Navigation trees			
Groups and permissions			
Users			Save Cancel
a line an ann an		www.cmdbuild.org · Info · Copyright © Tecnoteca srl	

There is the possibility of performing the following operations:

create a new view	🕂 Add View
edit the selected view	<b>A</b>
delete the selected view	Ô
disable the selected view (i.e. set the status as non-active)	0

Each view needs some parameters to be compiled (metadata), as mentioned.

## 11.3.1. General properties

The following information is required:

- Activity name
- Description

- Function: SQL function defined in the PostgreSQL database in order to extract the desired cards from one or more classes (compatibly with the restrictions described at the following paragraph)
- Active: the view is active and can be used

— General properties ^	
Name *	
ExpiringWarranty	
Description *	þ
Expiring warranty	
Function *	
cmf_warrantycheck	•
Active	

#### 11.3.2. Definition of the data source (PostgreSQL function)

The SQL function, defined in the PostgreSQL database in order to extract the desired cards, has to compatible with the following restrictions:

- the function must report the comment "TYPE: function"
- the definition of the function has to include the input and output parameters, clearly showing the name of each of them
- the input and output parameters have to be chosen among the following ones: "character varying", "boolean", "integer", "bigint", "numeric", "double precision", "date", "time", "timestamp", "text"
- in case that the function becomes more "tuple" than the output values, you should use the syntax "Returns setof record"

At the end of the operation, you have to perform the function "Setup" > Server management > Clear Cache, or to reboot Tomcat.

# 11.4. Views on the timetable

This feature allows you to create specific views on the Scheduling archive and edit the old ones.

CMDBuild CMDBuild de	mo	嶜 SuperUser 🔻 🔔 🎟 🗭
Navigation •	Views - From schedule - Contract expiration	
A Home	+ Add view	
Elasses		
Processes	General properties ^	
🕨 🖿 Domains	Name *	
Lookup types	ContractExpiration	
🕶 🖿 Views	Description *	
From filter	Contract expiration	
🕨 🖿 From join	Filters	
From SQL	<b>T X</b>	
🕶 🖿 From schedule	Active	
III Contract expiration		
Search filters		
Dashboards		
Reports		
🕨 🖿 Menus		
Custom pages		
Custom components		
DMS		
Navigation trees		
Groups and permissions		
Users		Save Cancel
· · · · · · · · · · · · · · · · · · ·	www.cmdbuild.org · Info · Copyright © Tecnoteca srl	

The configuration modes are similar to the views defined through the filter, except for the fact that the current file is the Scheduling one.

# 12. Search filters

Search filters can be used by operators in the data Management Module in order to display only the cards of a CMDBuild class meeting the set criteria.

They can be configured by the same operators in the Management Module using them in that moment or saving them in order to find them again at the following steps of the application, as described in the User Manual. Otherwise they can be configured by the administrator in the Administrator Module and made available to operators, as described in the following paragraph.

# 12.1. Properties

The function allows you to create new filters and edit the properties of the old ones.

CMDBuild CMDBuild de	emo	🕍 SuperUser 🔻 🔔 🖽 🕩
Navigation 4	Search filters	
Home     Gasses	+ Add filter Search on all search filters Q X	
Processes     Domains	General properties	۶ Ш V)
Lookup types	Name Default for groups	
Views	ActiveEmployees Change manager	
Active employees	Description Guest	
Chiudara	Active employees Hardware helpdesk	
- Critidere	Target class Hardware specialist	
	Employee     Network helpdesk	
M Assigned to my gr	Network specialist	
Propdero in carico	Active Software helpdesk	
PE - Assigned to me	Software specialist	
RE - Assigned to my gro	Filters SuperUser	
Sospesi		
Dashboards		
Reports		
Menus		
Custom pages		
Custom components		
V		
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There is the possibility of performing the following operations:

create a new filter	+ Add filter
<ul> <li>do searches on the configured filters</li> </ul>	Search on all search filters <b>Q X</b>
edit the selected filter	Ø

#### 12. Search filters

•	delete the selected filter	m
-		
•	disable the selected filter (i.e. set the status as non-active)	$\otimes$

CMDBuild <sup>®</sup> CMDBuild d	emo					🏰 SuperUser 👻	¢ ⊞ ເ <b></b>
Navigation 4	Sea	arch filters					
👫 Home	+	Add filter	Search on all search filters	Q X	]		
Classes					]		
Processes		General prop	erties				
🕨 🖿 Domains	Na	me *			Default for groups		
Lookup types	A	ctiveEmployee	25		Change manager		
Views	Des	scription *			Guest		
🕶 🖿 Search filters	A	ctive employe	es		Hardware helpdesk		
Active employees	Tar	rget class *			Hardware specialist		
n Chiudere	E	mployee		- x	Network helpdesk		
💾 Esecuzione	Act	tive			Network specialist		
M - Assigned to me					Software helpdesk		
M - Assigned to my gr	Filt	ters *			Software specialist		
🐴 Prendere in carico	Т	X			SuperUser		
🙌 RF - Assigned to me							
🙌 RF - Assigned to my gro							
🎒 Sospesi							
🕨 🖿 Dashboards							
🕨 🖿 Reports							
🕨 🖿 Menus							
Custom pages							
Custom components							Save Cancel
· • • • • • • •			www.cmdbuild.org i Inf	fo . Copyright © T	ecnoteca srl		

A new search filter can not be used if the access permissions are not defined, specifying which user group(s) can use them.

Such operation should be carried out by using the function "Users and Groups" / "Permissions" / "Search filters".

Each filter needs some parameters to be compiled (metadata), as mentioned.

#### 12.1.1. General properties

The following information is required:

- Name: name of the filter
- Description: description of the filter
- Target class: class which the filter can be applied to
- "Default for groups": it allows you to specify that the current filter is applied as default filter onto the above mentioned class for the selected groups (see also the TAB "Default filters" of Users and Groups)
- Active: the filter is active and can be used

General properties		
Name	Default for groups	
ActiveEmployees	Change manager	
Description	Guest	
Active employees	Hardware helpdesk	
Target class	Hardware specialist	
Employee 💌 🗶	Network helpdesk	
Active	Network specialist	
	Software helpdesk	
Filters	Software specialist	
т Х	SuperUser	

This form shares the following icons:

configuration of the current filter criteria	T
filter cancellation	X

Below you will find four screenshots that describe the user interface for the configuration of search filters regarding to:

- filter on attributes
- filter on relations
- filter through SQL function
- filter on attachments through search into the document (if allowed) and through search on metadata of documents

CMDBuild	CMDBu	ild demo						🏰 SuperUser 💌	4 🖩 🗭
Navigation		∢ Se	arch filters						
🖀 Home	Edit filters	of class: Ac	tive employe	ees				×	
Classes	Attributes	Relations	Function At	tachments					
Processes	Choose an a	attribute							
🕨 🖿 Domains	choose and	ittibute	-						
🕨 🖿 Lookup type									
Views									
Search filter	Operator			Input Parameter	Value				
Active e	Equals		-		Activ	e		<b>▼ X</b> 🗊	
Esecuzio									
IM - Ass									
IM - Ass									
Prender									
RF - Ass									
RF - Ass									
n Sospesi									
🕨 🖿 Dashboards									
🕨 🖿 Reports									
🕨 🖿 Menus								Ok Close	
Custom page			_		_		_		
Custom cor	nponents	~							Save Cancel
				www.cmdbuild.or	rg · Info	· Copyright © Tecnoteca sr	1		

CMDBuild demo 😫 SuperUser 🐇 д 🏢							) 🎟 🕩			
Navigation		▲ Search f	ilters							
倄 Home	Ed	Edit filters of class: Active employees								
Classes	Att	tributes <b>Relations</b> Function	on Att	achments						
Processes	DCJ			турс		No one	Any	From selec	From filter <b>^</b>	
Domains	is a	dditional manager of		Organizational unit						
Lookup type	is sı	uggested operator of		Request fulfilment						
Views	equ	ipped with		Configuration item						
Search filter	is b	usiness contact person of		Business service						
Active e	is co	ontact person of		Configuration item						
Chiuder	belo	ongs to		Company						
in Esecuzio	<								>	
IM - Assi	Se	earch Q	×							
n Prender		Subtype	Code		Description		Compa	any title		
👫 RF - Assi		Supplier	YAMIA		Yamia [YAMIA	]	Yamia		^	
👫 RF - Assi		Supplier	GELAN	IE	Gelane [GELA	NE]	Gelane	2		
🎒 Sospesi		Supplier	KAYBA		Kayba [KAYBA	]	Kayba			
Dashboards		Supplier	SKINU		Skinu [SKINU]		Skinu			
🕨 🖿 Reports		Supplier	ADDIS	ON_LEE	Addison Lee [	ADDISON_LEE]	Addisc	n Lee		
🕨 🖿 Menus										
🕨 🖿 Custom pag			_		_	_	_	_	Close	
Custom com	pone	ents 🗸								Save Cancel
				www.cmdbuild.org	Info · Cop	yright © Tecnoteca s	rl			

CMDBuild	CMDBuild demo	嶜 SuperUser 🖘 🗘 🌐 🕞
Navigation	Search filters	
🖀 Home	Edit filters of class: Active employees	×
E Classes	Attributes Relations <b>Function</b> Attachments	
Processes	Choose a function	
Domains	· · · · · · · · · · · · · · · · · · ·	
Lookup type		
Views		
Search filter		
Active e		
A Esecuzio		
IM - Assi		
M - Assi		
n Prender		
👫 RF - Assi		
🙌 RF - Assi		
n Sospesi		
Dashboards		
🕨 🖿 Reports		
Menus		Ok Close
Custom pag		
Custom com	iponents	Save Cancel
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CMDBuild	CMDBuild demo	📽 SuperUser 🤝	△ ⊞ 🕩
Navigation	Search filters		
倄 Home	Edit filters of class: Active employees	×	
Classes	Attributes Relations Function <b>Attachments</b>		
Processes	Attachments search text		
Domains	aaaa 🗙		
🕨 🖿 Lookup type			
Views	Metadata		
- E Search filter	· · · · · · · · · · · · · · · · · · ·		
Active e	Catagony		
Chiudere	category		
A Esecuzio	Operator Value	_	
IM - Assi	Equais *	· · ·	
IM - Assi			
Prender			
RF - ASSI			
Sospesi			
Dashboards			
Reports			
Menus			
Custom pag		Ok Close	
Custom com	nponents		Save Cancel
	▼ www.cmdbuild.org · Info · Copyright © Tecnoteca srl		

# 13. Dashboard

CMDBuild allows you to configure dashboard pages, which singularly contain charts of different typologies (bar, gauge, line, pie), data and texts tables; then they will be consulted in the Management Module.

Every dashboard can be addressed to a different typology of aspects which should be controlled: asset classifications (age, frequency, breakdown, use), service desk performances (SLA), economic aspects, etc.

For each dashboard you can define a custom layout by specifying the number of rows and columns for the page subdivision and the width of each resulting cell.

The data shown in the charts are extracted from the system performing suitable PostgreSQL functions defined by the administrator according to a particular template described below.

CMDBuild CMDBuild de	mo	🚰 SuperUser 🔻 🔔 🖽 🕞
Navigation •	Dashboards	
<ul> <li>A Home</li> <li>▶ ■ Classes</li> </ul>	+ Add dashboard Search on all dashboards and charts Q X	
	General properties ^ Name * Description *	~
<ul> <li>Search filters</li> <li>Dashboards</li> </ul>	Active	
Active tickets for Servic	Layout ^	
<ul> <li>Item monitor</li> <li>RequestFulfilment</li> <li>Service Level Agreeme</li> <li>Reports</li> <li>Menus</li> <li>Custom pages</li> <li>Custom components</li> <li>DMS</li> <li>Navigation trees</li> <li>Groups and permissions</li> </ul>	Pie Pie   Ass Pie	Left Bar
Users	www.cmdhuild.org · Info · Convright @ Tecnoteca scl	Save Cancel

# 13.1. Properties

Using this function you can configure new dashboard or edit the properties of the previous ones.

There is the possibility of performing the following operations:

create a new custom page	+ Add dashboard
--------------------------	-----------------

do searched on the configured dashboard	Search on all dashboards and charts <b>Q</b>
edit the selected dashboard	ø
delete the selected dashboard	ŵ
<ul> <li>disable the selected dashboard (i.e. set the status as non- active)</li> </ul>	0

The configuration of each dashboard needs some parameters to be compiled (metadata), the layout definition and the configuration of each element of the dashboard, as mentioned below.

#### 13.1.1. General properties

The following information is required:

- Name: dashboard name
- Description: dashboard description
- Active: the dashboard is active and can be used

General properties ^		
Name *	Description *	ja
ServiceDeskActiveTickets	Active tickets for Service Desk	
Active		

#### 13.1.2. Layout

To define a custom layout and the configuration of each element of the dashboard, there are the following possibilities:

create a new row	+ Add row
remove a row	×
move a row up	<b>^</b>
move a row down	+
add a new column	+
remove a column	_

<ul> <li>edit the proportion among the configured columns</li> </ul>	33%, 33%, 33% 50%, 25%, 25% 25%, 50%, 25% 25%, 50%
<ul> <li>position one of the available types of elements into the layout, with the drag &amp; drop function</li> </ul>	Lime         Image: Back of the second sec

### **13.1.3.** Configuration of Bar chart type properties

Below the properties that can be configured in a Bar chart type property:

- General properties
  - Chart name
  - Chart description
  - Height, in pixel
  - Autoloading when opening the page
  - Active
- Data source: a PostgreSQL function that has to be created in the database according to the instructions mentioned below
- List of input parameters provided by the data source that populates the chart, specifying for each one:
  - Mandatory
  - Data interpretation modes:
    - in case of decimal or data parameters, no further information is required
    - in case of string parameters, you are asked if it is a free string, if it is the name of a class, if you are the current user or the current group
    - in case of integer parameters, you are asked if it is a free number, the ID of a lookup value (in this case you will choose the lookup and the filter), the ID of a data card (in this case you will choose the class and a filter)
  - Default value
- Chart properties:
  - Show legend
  - Axis orientation: horizontal or vertical
  - Title of category board (label)
  - Value of category board (information represented by each bar)

- Title of value board (label)
- Value / values value board (multiselect field for the bar dimensioning)

General properties	
Name *	Description *
Active tickets in group	Active tickets in group
Height (px) *	Autoload
0	
Active	
$\checkmark$	
— Data source properties ^	
Function *	
dashboard_tickets_for_service_desk_group	
Bar chart type properties ^	
Show legend	
Chart orientation	
Horizontal	
Category axis ^	
Title	Value field
	Group
Value axis	
Title	Value field
Number of tickets	Counter

## 13.1.4. Configuration of Gauge chart type properties

The properties that can be configured in a Gauge chart type property are the same described for the Bar charts, except for these specific properties of the chart:

- Show legend
- Maximum scale value
- Minimum scale value (zero if not specified)
- Number of discretization intervals
- Foreground color

- · Background color
- Value field (in order to define the indicator shown)

— Gauge chart type properties ^			
Show legend			
Minimum		Maximum	
1	<b>_</b>	5	
	•		•
Steps			
10	<b>÷</b>		
Foreground color		Background color	
#C0C0C0	- X	#FFCC99	×
Value field		Label field	
	-		-

## 13.1.5. Configuration of Line chart type properties

The properties that can be configured in a Line chart type property are the same described for the Bar charts, except for these specific properties of the chart:

- Show legend
- Title of category board (label)
- Value of category board (information represented by each bar)
- Title of value board (label)
- Value / values value board (for the bar dimensioning)

– Line chart type properties $\wedge$	
Show legend	
Category axis ^	
Title	Value field
	•
— Value axis	
Title	Value field

#### 13.1.6. Configuration of Pie chart type properties

The properties that can be configured in a Pie chart type property are the same described for the Bar charts, except for these specific properties of the chart:

- Show legend
- Value field (for the dimensioning of the areas)
- Label field (cited in the areas)

Pie chart type properties $\land$	
Show legend	
Value field	Label field
Counter 👻	Process

### 13.1.7. Configuration of Data table type properties

The properties that can be configured in a Data table property are as follows:

- General properties
  - Activity name
  - Description
  - Height, in pixel
  - Autoloading when opening the page
  - Active
- Properties of the data source
  - Data source type, which takes the following values:
    - Function, in this case you are asked to select the name of the list
    - Class, in this case you are asked to select its name from the list and to specify the number of rows per page and a possible filter
    - · View, in this case you are asked to select its name from the list

Name *		Description *
DataTable		Data table
Height (px) *		Autoload
0	\$	
Active		
Y		
<b>∀</b>		
Data source properties ^		
Data source properties ^		
Data source properties ^  Source type		
Data source properties ^  Source type Class	~	
Data source properties  Source type Class Class *	~	
Data source properties  Source type Class Class * Building	×	
Data source properties  Source type Class Class * Building Row limit	• • X	Filter

#### 13.1.8. Configuration of Text area type properties

The properties that can be configured in a Text area property are as follows:

- General properties
  - Activity name
  - Description
  - Height, in pixel
  - Autoloading when opening the page
  - Active
- Text area properties:
  - HTML text

#### 13.1.9. Definition of the data source (PostgreSQL function)

In order for the system configuration of charts described above to work accurately, you have to consider in particular the definition of the PostgreSQL function which represents the data source.

In particular:

- the function must report the comment "TYPE: function"
- the definition of the function has to include the input and output parameters, clearly showing the name of each of them

- the input and output parameters have to be chosen among the following ones: "character varying", "boolean", "integer", "bigint", "numeric", "double precision", "date", "time", "timestamp", "text"
- in case that the function becomes more "tuple" than the output values, you should use the syntax "Returns setof record"

# 14. Report

CMDBuild allows the administrator to design custom reports, import them into CMDBuild through the Administration Module, insert them into the users' Menu and make them available in the Management Menu.

In order to design reports, CMDBuild uses the external visual editor JasperStudio from the open source suite JasperReports, which allows you to manage intuitively the layout and the formatting of the information extracted from the CMDB and export the template in XML format.

# 14.1. Properties

The function allows you to create new reports and edit the properties of the old ones.

CMDBuild CMDBuild	der	no				🕍 SuperUser 👻 🖽 🕞
Navigation 🔸		Report				
倄 Home	^	🕂 Add report	Search reports	۵.	•	Report: Locations with assets
Classes						
Processes						
🕨 🖿 Domains		General prop	erties ^			
Lookup types		Name				
Views		LocationsWithAs	sets			
Search filters						
Dashboards			reate			
🕶 🖿 Reports		LOCATIONS WITH AS	ssets			
Active tickets in a speci		Active				
Active tickets in a speci	4					
省 AD Connector - summa						
省 AM - Barcode print						
🕘 AssetMgt - List						
省 Barcode print						
🖆 IM - Average closing time						
🖆 IM - Open processes						
🖆 IM - Timetable						
🖆 LLDP Connector - Sum						
🕘 Locations with assets						
🖆 MTBF - Mean time bet						
🕘 OCS Connector - summ	•					
			www.cmdbuild.or;	g · Info	· Copyright © Tecnoteca srl	

There is the possibility of performing the following operations:

create a new report	+ Add report
do searches on the configured reports	Search on all reports <b>Q</b> 🗙
edit the selected report	Ø

<ul> <li>download the template of the selected report (in ZIP format, including any subreports and pictures)</li> </ul>	*
display the SQL query of the report	0)))
delete the selected report	Ŵ
<ul> <li>disable the selected report (i.e. set the status as non-active)</li> </ul>	0

CMDBuild CMDBuild	der	no	曫 SuperUser 🔻 🌐 🕩
Navigation •		Report	
倄 Home	^	+ Add report Search reports Q X	Report: Locations with assets
Elasses			
Processes		General properties A	
🕨 🖿 Domains		Name *	
🕨 🖿 Lookup types		LocationsWithAssets	
Views		Description	
Search filters		Locations with assets	
Dashboards		Active	
🕶 🖿 Reports		$\overline{\mathscr{C}}$	
🖆 Active tickets in a speci			
🖓 Active tickets in a speci	•	File ^	
🖆 AD Connector - summa			
🖆 AM - Barcode print		Select ZIP file Browse	
🕘 AssetMgt - List			
🖆 Barcode print			
🖆 IM - Average closing time			
🖓 IM - Open processes			
🖆 IM - Timetable			
🖉 LLDP Connector - Sum			
🖆 Locations with assets			
🖆 MTBF - Mean time bet			
CCS Connector - summ	¥		Save Cancel
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Each report needs some parameters to be compiled (metadata), as mentioned.

## 14.1.1. General properties

The following information is required:

- Name: it is univocal identification of the report
- Description: description of the report
- Active: it states whether the report is active and can be used by an operator

— Generals ^	
Name *:	
LocationsWithAssets	
Description:	
Locations with assets	
Enabled:	

## 14.1.2. File

The following information is required:

• ZIP file: upload of the file including the main template (file jrxml), any subreports (jasper files) and any pictures

— File ^		
Zip file:		
		Select zip file

# 15. Menu

Each user group in CMDBuild has its own custom navigation menu, which can be configured by the administrator.

Each menu can include all types of elements created in the system (classes, processes, views, dashboards, reports, custom pages) and custom folders (used to organize entries).

Accessing the Management Module, each operator has a menu configured for his/her own group, or the default menu (if any) filtered according to his/her own needs.

Different menus can be configured for "desktop" and "mobile" interface.

It is also possible to define some class hierarchy, based on relations (specific navigation trees) to "implement" in any position of the menu, in order to navigate in the information by a hierarchic logic (for example from a building to its floors, from a floor to its rooms, from a room to the assets inside it).

# 15.1. Desktop menu

CMDBuild CMDBuild de	mo	嶜 SuperUser 🤝	↓ Ⅲ	•
Navigation •	Menu - Desktop			
🗥 Home 🔨	+ Add menu		Menu: <b>*De</b>	fault*
Classes				🔊 🗂
Processes				ø
Domains	Group: *Default*			
🕨 🖿 Lookup types				^
Views				
Search filters	<ul> <li>Employees</li> </ul>			
Dashboards	All employees			
Reports	Internal employees			
🕶 🖿 Menus				
- Desktop				
🐮 *Default*				
🕨 🖿 Mobile				
Navigation trees				
Custom pages				
Custom components				
DMS				
Navigation trees	Elecations with assets			
Groups and permissions	Customers			
Users				
Notifications				
× • · · · · · · · · · · · · · · · · · ·	<ul> <li>Suppliers</li> <li>www.cmdbuild.org</li> <li>Info</li> <li>Copyright @Tecnoteca.srl</li> </ul>			~

This function allows to create new menus for CMDBuild desktop interface. You can then assign it to different user groups and edit the properties of the old ones.

It is possible to configure a "Default" menu type which will apply to all groups without a specifically configured menu.
There is the possibility of performing the following operations:

add a new menu	🕂 Add menu
edit the selected menu	Ø
delete the selected menu	Ŵ

The creation or change of a menu can be done as described below.

CMDBuild CMDBuild de	mo	2	SuperUser 👻 🏠 🔠 🗭
Navigation •	Menu - Desktop		
A Home	🕂 Add menu		Menu: <b>*Default*</b>
Classes			Clone from
Processes			
Domains	Group: *Default*		
🕨 🖿 Lookup types		^	
Views		New folder:	0
Search filters	Employees	Classes	
Dashboards	All employees	Processes	
Reports		Reports	
🕶 🖿 Menus			
🕶 🖿 Desktop	Crganizational units	CI with location	
🐮 *Default*	Corporate group	Contract expiration	
🕨 🖿 Mobile		Available desktop	
Navigation trees	■ Buildings		
Custom pages	E Floors		
Custom components	li Rooms		
DMS	Building Items	Navigation trees	
Navigation trees	Lacations with assets		
Groups and permissions	Customers		
Users	Customer		
Notifications	A Customer employee	•	Sovo Concol
· · · · · · · · · · · · · · · · · · ·			Save

## 15.1.1. Menu configuration

The setup of a menu includes the following operations:

<ul> <li>clone the menu from another configured one</li> </ul>	Clone from ▼ ★ *Default*
add a new folder	New folder:
drag and drop menu items from a list of available elements	<b>•</b>
delete items from the menu	€

localization of an element in the menu	j <b>eu</b>
<ul> <li>double-click on the menu to customize the description of the used element</li> </ul>	Internal employees

Once the configuration is confirmed, the menu will instantly be available for the users of the group the menu applies to (or to every group in case of a default menu). They will be able to access the Management Module. If somebody is already connected, he/she will have to clean the browser cache and/or disconnect and reconnect, in order to see the modified menu.

# 15.2. Mobile menu

For the creation and modification of menus dedicated to the mobile APP, the same indications valid for the desktop interface apply.



# 15.3. Navigation trees for menus

In addition to the classic navigation through data, moving from a class to another, it is possible to "implement" in any position of the menu a class hierarchy, based on relations 1:N, in order to navigate through information by a hierarchic logic, for example to view the floors inside a building, the rooms inside a floor, the assets inside a room.

CMDBuild CMDBuil	d de	mo		1	📽 SuperUser 👻 🗘	⊞	۲	
Navigation	•	Navigation trees						
倄 Home	^	+ Add tree			Navigation tree: Buil	ding I	tems	
Classes							面(	0
Processes								~
🕨 🖿 Domains		General properties ^						1
Lookup types		Name	Descript	ion				
Views		BuildingDetails	Building I	tems				
Search filters		Source class						
Dashboards		Building						
🕨 🖿 Reports								
🕶 🖿 Menus		Active	Active					
🕨 🖿 Desktop								
🕨 🖿 Mobile		-						
🕶 🖿 Navigation trees		- Tree ^						
Building Items		Domain 1	Class	Filter CQL	Label			
Custom pages		🗖 🗹 🗁 Building	Building				¢.	
Custom components		🗄 🔲 🗅 belongs to [Complex]					0	
DMS		🕒 🗋 🗀 contains equipments [Configuration i	🗈 🗋 🗅 contains equipments [Configuration i				¢.	
Navigation trees		E 🕼 has [Floor] Floor					¢.	
Groups and permissions		🗈 🗋 🗀 belongs to [Building]					Φ.	
🕨 🖿 Users		🗈 🔲 🗅 belongs to [Complex]					¢.	
Notifications		🗈 🗋 🗅 contains equipments [Configurati					Φ.	
· · · · ·	~	www.cmdbuild.org	Copyright © Tecnoteca	srl			<u></u>	~
		in the state of th						

The configuration modalities are the same of generic navigation trees, apart from two more features:

- label: it allows you to assign to the entry of the menu a label that is different from the name of the related class
- view mode: it is active only for selected superclasses, with the options described below

## 15.3.1. View mode

The view mode includes the following options:

- superclass: cards of all subclasses are shown together in the superclass node
- subclasses: for subclass an entry is inserted into the menu

Through the icon in the column on the right (cogwheel), enabled only for superclasses, you can filter the subclasses you want to include in the menu and manage a custom label from this function.

CMDBuild	CMDBuild demo 📽 SuperUser		¢.	<b>=</b>	•	
Navigation	Navigation trees					
🕷 Home	View mode	×	Build	ling If	cems	
Classes	General properties ^	^			<b>a</b> (	
Processes	View mode			67 U		^
Domains	Superclass					
🕨 🖿 Lookup type						
Views	Filter superclasses A					
Search filter						
Dashboards	Class					
Reports	E 🗁 Configuration item					
🔫 🖿 Menus	🗋 🗋 Grid - Asset					
🕨 🖿 Desktop	🛢 🗋 🗁 Hardware					
🕨 🖿 Mobile	🗖 🔲 🗁 Client hardware					
👻 🖿 Navigati	Client peripheral					
🚠 Buile	Monitor					
🕨 🖿 Custom pag	Printer					
Custom con	Computer					
DMS	Desktop					
Navigation t	D D Mobile				ö	
Groups and	D D Notebook				8	
Users	C D Phone hardware	~				
Notifications	<ul> <li>D D belongs to infrastructure [</li> </ul>					~
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# 16. Custom page

In the user interface of the Management Module you can include data of custom pages, subject to the standard security mechanisms of CMDBuild.

The Custom pages are programmed in javascript though the same mechanisms of Sencha ExtJs, the framework used for the standard implementation of CMDBuild.

Pages with different layouts can be configured for "desktop" and "mobile" interface.

# 16.1. Custom pages

CMDBuild CMDBuild	d demo	📽 SuperUser 🔻 🗘 🌐 🕩
Navigation	◀ Custom pages	
倄 Home	▲ Add custom page Search on all custom pages Q ★	Custom page: Ticket situation
Classes		
Processes	General properties A	
Domains	Component ID	
🕨 🖿 Lookup types	view.custompages.ticketssummary.TicketsSummary	
Views	Description *	
Search filters	Ticket situation	
🕨 🖿 Dashboards	Active	
🕨 🖿 Reports		
🕨 🖿 Menus		
🕶 🖿 Custom pages	• Files ^	
Ticket situation	Desktop version Mobile version	
Custom components	Select ZIP file Browse Select ZIP file	Browse
DMS	ش <b>خ</b>	
Navigation trees		
Groups and permissions		
Users		
Notifications		
Imports/Exports		
Task manager		
Service bus		Save Cancel
- Mar	▼ www.cmdbuild.org · Info · Convright © Tecnotece.srl	

Using this function you can configure new custom pages or edit the properties of the previous ones.

There is the possibility of performing the following operations:

create a new custom page	Add custom page
<ul> <li>do searches on configured custom pages</li> </ul>	Search on all custom pages Q 🗙
edit the selected custom page	<b>A</b>

<ul> <li>download the code of the selected custom page (in ZIP format)</li> </ul>	*
delete the selected custom page	Ŵ
<ul> <li>disable the selected custom page (i.e. set the status as non-active)</li> </ul>	0

#### 16.1.1. General properties

The following information is managed:

- ID component: it is assigned by the system during its creation and it is available only in view-mode in the modification form of a custom page
- Description: it is the unique name assigned to the custom page
- · Active: it states whether the custom page is active and can be used by an operator

General properties ^	
Component ID	
CMDBuildUI.view.custompages.ticketssummary.TicketsSummary	У
Description *	
Ticket situation summary	
Target device	
Desktop	
Active	

## 16.1.2. File

- Desktop ZIP file: it includes all files related to the implementation of the custom page on the desktop user interface
- Mobile ZIP file: it includes all files related to the implementation of the custom page on the mobile user interface

Files ^			
Desktop version		Mobile version	
Select ZIP file	Browse	Select ZIP file	Browse
<u>ت ځ</u>			

# **17. Custom component**

CMDBuild allows the administrator to create custom UI components, import them into CMDBuild through the Administration Module and use them when creating contextual menus and widgets.

## 17.1. Contextual menus

This function allows you to define the custom components for the creation of contextual menus used both in the desktop interface and in the mobile interface and import their implementation javascript code.

CMDBuild CMDBuild	d der	mo					📸 SuperUser 👻 🏛 🕞
Navigation	•	Custom components - Cont	ext menu				
🖀 Home	^	+ Add context menu component	Search on all context	menu	Q	×	Context menu: Update cards status
Classes							
Processes		General properties ^					
Domains		Description *					
Lookup types		Update cards status					
Views		Active					
Search filters							
Dashboards							
🕨 🖿 Reports		Files ^					
🕨 🖿 Menus		Desktop version *			Mobile versio	n	
Custom pages	4	C:\fakepath\DesktopContextMen	u.zip	Browse	Select ZIP fil	e	Browse
🕶 🖿 Custom components							,
🕶 🖿 Context menu							
🕨 🖿 Form Widgets							
Scripts							
DMS							
Navigation trees							
Groups and permissions							
Users							
Notifications							
Imports/Exports	~						Save Cancel
		www.cm	dbuild.org · Info ·	Copyright ©	Tecnoteca srl		

There is the possibility of performing the following operations:

create a new custom component	+ Add context menu component
<ul> <li>do searches on configured custom components</li> </ul>	Search on all context menu Q X
edit the selected custom component	Ø
delete the selected custom component	Ŵ

•	disable the selected custom component (i.e. set the status as	$\oslash$
	non-active)	

Each custom component needs some parameters to be compiled (metadata), as mentioned below.

## 17.1.1. General properties

The following information is required:

- Description: description of the custom component
- · Active: it states whether the custom component is active and can be used

— General properties $\land$	
Description *	
Print QR Labels	
Active	

## 17.1.2. File

- Desktop ZIP file: it includes all files related to the implementation of the custom menu on the desktop user interface
- Mobile ZIP file: it includes all files related to the implementation of the custom menu on the mobile user interface

Browse

# 17.2. Form widget

This function allows you to define the custom components for the creation of widgets to be shown in data cards, both in the desktop and mobile interface, and import their implementation javascript code.

CMDBuild CMDBuild	d de	mo				嶜 SuperUser 🤝	û 🖩 🕩
Navigation	•	Custom components - For	m Widgets				
Home	^	+ Add form widget component	Search on all form widg	gets	Q X		Widget: Print card
Classes							
Processes		General properties ^					
🕨 🖿 Domains		Description *					
🕨 🖿 Lookup types		Print card					
Views		Active					
Search filters							
🕨 🖿 Dashboards							
🕨 🖿 Reports		Files ^					
🕨 🖿 Menus		Desktop version *			Mobile version		
🕨 🖿 Custom pages		C:\fakepath\DesktopWidget.zip		Browse	Select ZIP file		Browse
Custom components							
🕶 🖿 Context menu							
🕶 🖿 Form Widgets							
Scripts							
DMS							
Navigation trees							
Groups and permissions							
Users							
Notifications							
Imports/Exports	~						Save Cancel
- Barrer - F		www.c	mdbuild.org · Info ·	Copyright ©	Tecnoteca srl		

The management modes are similar to the components of contextual menus described above.

# 17.3. Script

This function allows you to define the scripts used in cards for the definition of custom behaviors, both in the desktop and mobile interface.

CMDBuild CMDBuild	d der	no		🕍 SuperUser 🔻 🔔 🌐 🕩
Navigation	•	Custom components - Script		
<ul> <li>Home</li> <li>Classes</li> <li>Processes</li> </ul>	^	Add script component     Search on all scripts  General properties	Q X	Script: Hello CMDBuild
🕨 🖿 Domains		Name *	Description *	
🕨 🖿 Lookup types		HelloCMDBuild	Hello CMDBuild	
Views		Active		
Search filters		$\mathbf{r}$		
Dashboards				
🕨 🖿 Reports		Script ^		
🕨 🖿 Menus		Code		
Custom pages	1	1 Enter here your Groovy script code. The output of the script must be assigned to the ouptut variable.		
🕶 🖿 Custom components		Eg. output = "Hello CMDBuild";		
🕶 🖿 Context menu				
🕶 🖿 Form Widgets				
🕶 🖿 Scripts				
DMS				
Navigation trees				
Groups and permissions				
🕨 🖿 Users				
Notifications				
Imports/Exports	~			Save Cancel
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The management modes are similar to the ones of other custom components, except for the scripts that are inserted from user interface and are not imported as file.

# 18. DMS

CMDBuild includes the integration with document systems (DMS Document Management System) for filing and consulting attachments of Configuration Items.

The integration is based on the standard protocol CMIS (Content Management Interoperability Services), which has to be supported by the chosen DMS. CMDBuild recommends the DMS open source Alfresco Community version, set as default solution. The CMIS solution related to Microsoft Share Point online is also supported.

DMS systems are used as repository for documents, while CMDBuild remains the user interface to load and download documents.

The attachments can be grouped in document categories which can be defined in a diversified way for each class. Each category can be associated to a document model for the pre-configuration of specific behaviours for that type of documents; in particular the activation of additional attributes for managing specific information (metadata).

# 18.1. DMS categories

This function allows the creation of new document categories, which can be associated to one or more CMDBuild classes and customized in terms of attributes (document metadata) and other behaviours through document models described in the following paragraph.



## 18.1.1. Properties tab

There is the possibility of performing the following operations:

create a new Document category	🕂 Add value
<ul> <li>do searches on the configured Document categories</li> </ul>	Search Q 🗙
delete the selected Document category	ŵ

## **Properties**

The following information is required for the configuration:

• Name (not editable)

– General	properties			
Name *				
vanie				

## 18.1.2. Values TAB

The function allows you to create the values associated to the current document category for classifying and differentiating documents related to CMDBuild cards belonging to the class associated to that category.

There is the possibility of performing the following operations:

create a new entry in the Document category	🕈 Add value
<ul> <li>do searches on entries of the document categories</li> </ul>	Search in grid 🗙
<ul> <li>expand the current row and display its data</li> </ul>	Ð
edit the selected entry	en a
display the selected entry	2
delete the selected entry	Ŵ
<ul> <li>disable the selected entry (i.e. set the status as non-active)</li> </ul>	0

Each value of the list requires some parameters to be compiled, as described below.

CMDBuild CMDBuild	der	mo								<b>8</b> S	SuperUser – 🗘 🌐 🕩
Navigation	(	DI	MS catego	ries							
倄 Home	^	+	Add DMS ca	tegory	Search on all	DMS categorie	and values	Q	×	DMS	category: Attachments - Desktop
E Classes		-				0					
Processes		Pr	operties	Values	Assigned on						
Domains		+	Add value	Search	in grid	:	×				
🕨 🖿 Lookup types			Code 1			Description			DMS model		Active
Views		$\oplus$	01			Administrativ	e documents		Administrative Document		
Search filters			02			Technical doo	uments		Default DMS model		
🕨 🖿 Dashboards			02			Teermieur doe	amento		belaar biilb model		* <b>7</b> ÷ 0
🕨 🖿 Reports			General	properties	Attachme	nts properties	lcon				
🕨 🖿 Menus			Code					D	escription		
🕨 🖿 Custom pages	4		02					Te	echnical documents		
Eustom components			Notes								
🕶 🖿 DMS											
- DMS categories											
III AlfrescoCategory											
III Attachments - De			Active								
DMS models			M								
🖋 Settings											
Navigation trees											
Groups and permissions											
🕨 🖿 Users											
s 💼 sa ann ar	~										
					www.cmdbuil	d.org · Info	· Copyrigh	t © Tecn	oteca srl		

## General properties

- Code: DMS category code
- Description: DMS category description
- Notes
- Active: the category is active and can be used

General properties ^		
Code *	Description *	<b>i</b> ~
01	Administrative documents	
Notes		
Active		

#### Attachment properties

The following information is required:

- DMS model: you can select the DMS model (similar to a CMDBuild class) that has to be associated to the document category in order to customize its behaviour (custom attributes and others)
- Allowed extensions: extensions allowed for the files that have to be attached to the current document category
- Count check: it allows you to specify if for each card the current document category will include at least the number of attachments specified, the right number of specified attachments or a maximum number of specified attachments
- Control on the maximal fiel size

DMS model *			Allowed extensions
Administrative Document		٣	Enter extensions separated by comma. Eg pdf,odt,doc. Leave this field empty to use the DMS model setting as default.
Count check			
Count check As configured in DMS model value as default	Ŧ	×	
Count check As configured in DMS model value as default Max file size	*	×	

#### <u>lcon</u>

The following information is required:

Icon

lcon ^		
lcon		
Select an .png file	Browse	

## 18.1.3. TAB Assignment

The function allows you to display the list of classes and processes that use the current document category.

Navigation   Marking   Mome   Mome   Classes   Processes   Domains   Coloses (1)   Desktop   Views   Search filters   Dashboards   Reports   Menus   Custom pages   Custom components	CMDBuild CMDBuild de	CMDBuild demo	🚰 SuperUser 👻 🏛 🕞
Home   Classes   Processes   Domains   Classes (1)   Classes (1)   Classes (1)   Classes (1)   Desktop   News   Desktop   News   Processes (0)   Processes (0)   Custom pages   Custom components   Custom components   DMS	Navigation •	▲ DMS categories	
Classes   Properties   Values   Assigned on   Domains   Classes (1)   Dokup types   Desktop   News   Processes (0)   Proc	A Home	Add DMS category Search on all DMS categories and values Q 🗙	DMS category: Attachments - Desktop
Processes Properties Values Assigned on   Domains Classes (1)   Lookup types Desktop   Views Desktop   Search filters Processes (0)   Dashboards Processes (0)   Reports Processes (0)   Menus Processes (0)   Custom pages Processes (0)   Custom components Processes (0)	Classes		
> Domains - Classes (1)   > Lookup types Desktop   > Wiews -   > Search filters -   > Dashboards -   > Dashboards -   > Menus -   > Menus -   > Custom pages -   > Custom components -   > DMS -	Processes	Properties Values Assigned on	
> Lookup types     Desktop       > Views     -       > Search filters     -       > Dashboards     -       > Dashboards     -       > Menus     -       > Menus     -       > Lostom pages     -       > Lostom components     -       > DMS     -	Domains	Classes (1)	
N Views   Search filters   Dashboards   Dashboards   Reports   Menus   Custom pages   Custom components   DMS	🕨 🖿 Lookup types	Desktop	
<ul> <li>&gt; Search filters</li> <li>&gt; Dashboards</li> <li>&gt; Meports</li> <li>&gt; Menus</li> <li>&gt; Custom pages</li> <li>&gt; Custom components</li> <li>&gt; DMS</li> </ul>	Views		
<ul> <li>Dashboards</li> <li>Reports</li> <li>Menus</li> <li>Custom pages</li> <li>Custom components</li> <li>DMS</li> </ul>	Search filters	Processes (0)	
> In Reports   > In Custom pages   > In Custom components   > In DMS	Dashboards		
Menus Custom pages Custom components DMS	Reports		
Custom pages Custom components DMS DMS	Menus		
Custom components  DMS	🕨 🖿 Custom pages	4	
	Custom components	nents	
	🕶 🖿 DMS		
Divis categories	<b>The DMS categories</b>	ries	
III AlfrescoCategory	III AlfrescoCategory	Category	
III Attachments - De	III Attachments - De	nents - De	
DMS models	DMS models	s	
<i>S</i> Settings	🖋 Settings		
Im Navigation trees	Navigation trees	s	
Groups and permissions	Groups and permissions	missions	
> In Users	Users		
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# 18.2. DMS models

The function allows you to create new document models, which can be associated to a document category in order to customize its behaviour (custom behaviour, etc.).

A DMS model is composed of a particular CMDBuild class, keeping its main features and config possibilities.

## 18.2.1. Properties tab

The function allows you to manage document models.

CMDBuild CMDBuild de	mo	🚰 SuperUser 🔻 🔔 🌐 🕩
Navigation •	DMS models	
Home     Classes	+ Add DMS model Search on all DMS models and attributes Q ¥	DMS model: AdminDocument
Processes	Properties Attributes Layout	
Domains		2 🖄 🖉 🖨 🝷
🕨 🖿 Lookup types	General properties	^
Views	Name	100
Search filters	AdminDocument Administrative Document	7
Dashboards		
Reports	Inherits from Superclass	
🕨 🖿 Menus	Default	
Custom pages	Active	
Eustom components		
- DMS		
DMS categories	DMS model parameters ^	
- DMS models	eland biline meter	
Administrative Do		
Default DMS model		
🖋 Settings	Help text	
Navigation trees		
Groups and permissions		
Users	Attachments properties ^	
V	www.cmdbuild.org · Info · Convright © Tecnoteca er	~

## There is the possibility of performing the following operations:

create a new DMS model	+ Add DMS model
do searches on configured DMS models	Search on all DMS models and attributes Q X
edit the selected DMS model	Ø
delete the selected DMS model	Đ
<ul> <li>disable the selected DMS model (i.e. set the status as non-active)</li> </ul>	0

<ul> <li>print the structure of the current DMS model</li> </ul>	⊖ -
	Adobe Pdf
	OpenOffice Odt

The properties of a document model are the ones available for the common CMDBuild classes. Please read the paragraph related to their meaning and config modes.

## 18.2.2. Attributes tab

The Attributes tab allows you to manage the attributes of the selected document Model

CMDBuild CMDBuild de	emo						嶜 SuperUser	- <u></u>	•
Navigation 4	D	MS models							
A Home	Ι.	<ul> <li>Add DMS model</li> </ul>	Search on all DMS	models and attributes	Q <b>x</b>		DMS r	nodel: AdminDocu	ument
Classes	12								
Processes	P	roperties Attribu	tes Layout						
Domains	+	Add attribute	earch in grid	×				Include Inherit	ed: 🗹
Lookup types		Name	Description	Туре	Unique	Mandatory	Active	Mode	
Views	÷	Code	Code	STRING			<b>V</b>	Editable	^
Search filters	÷	Description	Description	STRING				Editable	
Dashboards	Ŧ	DocumentNum	Document nu	STRING				Editable	
Reports		DocumentDate	Document date	DATE				Editable	
Menus	4							<b>∕</b> [7] ि m	0
Custom pages		General propert	Is Type propertie	es Other properties				<b>P</b> O (] 0	_
Custom components		Name			Descripti	on			
🕶 🖿 DMS		DocumentDate			Documen	t date			
DMS categories		Group			Mode				
🕶 🖿 DMS models					Editable				
Administrative Do		Unique			Mandato	rv			
Default DMS model						. ,			
🖋 Settings		Hide in filter							
Navigation trees									
Groups and permissions		Active							
🕨 🖿 Users									
× • • • • • • • • • • • • • • • • • • •		_	www.cmdbuild.org	z · Info · Conv	right © Tecnoteca srl				~
				, copy					

The properties of attributes of a document model are the ones available for the attributes of the common CMDBuild classes. Please read the paragraph related to their meaning and config modes.

## 18.2.3. Layout TAB

The Layout tab allows you to manage the layout of the selected document model.

🗳 CMDBuild CMDBuild	demo	i SuperUser 👻 🏳 🌐 🕞
Navigation •	DMS models	
<ul> <li>A Home</li> <li>▶ Classes</li> <li>▶ Processes</li> </ul>	Add DMS model Search on all DMS models and attributes Q X      Properties Attributes Layout	DMS model: AdminDocument
<ul> <li>Domains</li> <li>Lookup types</li> <li>Wiews</li> </ul>	Base data	/ @ Ø
<ul> <li>Bearch filters</li> <li>Dashboards</li> <li>Reports</li> </ul>	Code [Code]	
Menus  Custom pages  Custom components	Document number [DocumentNumber]     Document date [DocumentDate]	
DMS     DMS categories     DMS models		I
Administrative Do…  Control  Contro  Control  Control  Control  Control  Control  C		
<ul> <li>Navigation trees</li> <li>Groups and permissions</li> <li>Users</li> </ul>		
. <b>–</b>	www.cmdhuild.org · Info · Convright@Ternoteca.srl	

The configuration of the layout of a DMS model is similar to the layout of a common CMDBuild class. Please read the related paragraph for the management modes.

# 18.3. Configurations

The function allows you to set some basic configuration parameters of the document features available in the CMDBuild system.

CMDBuild' CMDBuild de	mo	i SuperUser 🔻 💭 🌐 🗭
Navigation •	DMS - Settings	
🐔 Home 🔨		1
Classes		^
Processes	Generals	
🕨 🖿 Domains	Active	
🕨 🖿 Lookup types		
Views	DMS category	
🕨 🖿 Search filters	AlfrescoCategory	
🕨 🖿 Dashboards	Service type	
🕨 🖿 Reports	CMIS	
🕨 🖿 Menus		
🕨 🖿 Custom pages	CMIS A	
🕨 🖿 Custom components		
🕶 🖿 DMS	Host	Vebservice path
DMS categories	http://localhost:10080/alfresco/api/-default-/public/cmis/versions /l /1.1/atom	Jser Homes/cmdbuild
🕶 🖿 DMS models	Username P	assword
Administrative Doc	admin ···	
Default DMS model		
🖋 Settings	Attachments validation	
Navigation trees		
Groups and permissions	Max file size	
Users		
· · · · · · · · · · · · · · · · · · ·	www.cmdbuild.org · Info · Copyright © Tecno	teca srl

Parameters are divided into the three sections described below.

## 18.3.1. General properties

- · Active: it allows you to activate the interface with the DMS system
- DMS category: default document category, unless stated otherwise for the single classes and processes
- Service type:
  - CMIS (Content Management Interoperability Services), suggested option
  - Microsoft SharePoint Online

18	DMS
10.	

Generals ^	
Active	
DMS category	
AlfrescoCategory	~
Service type	
CMIS	•

## 18.3.2. CMIS protocol

The following information is required:

- Host: Alfresco DMS server host
- · Webservice path: it corresponds to the path of webservice calls
- Username: DMS username
- Password: user's password

CMIS ^		
Host	Webservice path	
http://localhost:10080/alfresco/api/-default-/public/cmis/versions	/User Homes/cmdbuild	
Username	Password	
admin	••••	۲

## 18.3.3. Attachment validation

- Maximal file seize
- Types of files admitted for loading from user interface: the list of admitted extensions can be specified for operators' loading (the configuration can be overwritten on single document categories)
- Types of files admitted for loading from email attachments: the list of extensions can be specified for automatic loading in the document archive when receiving emails with attachments.

----- Attachments validation ^

#### Max file size

Allowed file extensions for attachments uploaded from the user interface

Enter extensions separated by comma. Eg pdf,odt,doc. Leave this field empty to disable extensions check.

#### Allowed file extensions for incoming emails

Enter extensions separated by comma. Eg pdf,odt,doc. Leave this field empty to disable extensions check.

# **19. Navigation trees**

A navigation tree is a hierarchical representation of CMDBuild cards: each level corresponds to class cards, linked to the cards of the parent class having a domain with cardinality 1:N.

CMDBuild uses navigation trees in various features:

- to define filters that can be applied to the relation graph, excluding some useless relations
- to lead the hierarchical selection of an element through the widget
- to insert a class hierarchy in the navigation menu of the application (can be configured in the menu management)
- to configure the hierarchical navigation menu among items georefered on the map (can be configured in the GIS management)

The use related to the configuration of menus and GIS trees is described in the related chapters of the manual. Below you can read their use in other fields.

# **19.1.** Properties

The function allows you to create new navigation trees and edit the properties of the old ones.

CMDBuild CMDBuild	deı	mo			曫 SuperUser 👻 [	7 🎟	•	
Navigation •		Navigation trees						
🖀 Home	^	+ Add tree			Navigation tree: Applicatio	n archite	ectur	e
Classes							贏	0
Processes								~
🕨 🖿 Domains		General properties ^						
Lookup types		Name						
Views		ApplicationArchitecture						
Search filters		Description						
🕨 🖿 Dashboards		Application architecture						
🕨 🖿 Reports		· + F · · · · · · · · · · · · · · · · ·						
🕨 🖿 Menus		Source class						
Custom pages	1	Application						
Custom components		Active						
DMS								
- 🖿 Navigation trees								
🚠 Application architect		Tree ^						
Groups and permissions		Domain 1	Class	Filter CQL		Recurs	ive	
Users	Т	September 2017	Application					-
Notifications		affected by [IT Process]						
Imports/Exports		assigned to [Employee]						
Task manager		Generation item]	Configuration it					
Service bus		Image: Second				_		
· • • • • • •	¥	www.cmdbuild.org · Inf	o · Copyright © Te	ecnoteca srl				v

There is the possibility of performing the following operations:

create a new navigation tree	+ Add tree
edit the selected navigation tree	Ø
delete the selected navigation tree	Ŵ
<ul> <li>disable the selected navigation tree (i.e. set the status as non- active)</li> </ul>	0

🗳 CMDBuild CMDBuild	d de	mo			🐮 SuperUser 🔻		۲	
Navigation	•	Navigation trees						
倄 Home	^	+ Add tree			Navigation tree: Applica	tion archite	ecture	
Classes								^
Processes		General properties A						
🕨 🖿 Domains		Name *						
Lookup types		ApplicationArchitecture						
Views		Description *	jæ					
Search filters		Application architecture						
🕨 🖿 Dashboards		Source class						
🕨 🖿 Reports		Application	- x					
🕨 🖿 Menus		Active						
Custom pages	4	$\checkmark$						
Custom components								
DMS		- Tree ^						
- 🖿 Navigation trees		Domain 1	Class	Filter CQL		Recurs	sive	
🚠 Application architect		German Application	Application					
Groups and permissions		affected by [IT Process]						
🕨 🖿 Users		🖶 🔲 🗀 assigned to [Employee]						
Notifications		🗖 🗹 🗁 depends on [Configuration item]	Configuration it					
Imports/Exports		affected by [IT Process]	5					
🕨 🖿 Task manager		Image: A state of the state						~
Service bus	$\checkmark$					Save	Cance	
		www.cmdbuild.org · Ir	ifo · Copyright © T	ecnoteca srl				

Each navigation tree needs certain parameters to be compiled (metadata), as described below.

## 19.1.1. General properties

- Name: name of navigation tree
- Description: description of the navigation tree
- Original class: root of the tree
- Active: the navigation tree is active and can be used

— General properties 🔿 ———————————————————————————————————		
Name *		
ApplicationArchitecture		
Description *		
Application architecture		
Source class		
Application	-	×
Active		

## 19.1.2. Navigation tree

Starting from the root class 1:N the class tree is displayed and for each class the following are required:

- Class: it allows you to select the classes of the navigation tree you want to configure
- · CQL filter: it allows you to set filters to exclude some elements of the selected classes
- Recursion enabled: it allows you use recursive domains on the same class

Class	Filter CQL	Recursive
🗖 🐨 🗁 Application		
🛢 🗹 🗁 ApplicationComponent [has Component]		
ApplicationComponent [belongs to Applica		
🖪 🔲 🗅 AssetMgtCl [managed by Asset manageme		
🖪 🔲 🗅 AssigneeCI [assigned to Employee]		
🕒 🗋 🕒 BuildingCl [located into building Building]		
🖪 🗹 🗅 CIDependency [depends on Configuration i		
🕒 🗹 🗅 CIEmployee [has as contact people Employ		
🖪 🔲 🗅 CompanyCl [owned by Company]		
🖪 🔲 🗅 ComplexCl [located into complex Complex]		
🛢 🗹 🗁 ExecServerServerSW [is running on Server]		
AssetMgtCl [managed by Asset manage		
🖪 🔲 🗅 AssigneeCI [assigned to Employee]		
🕒 🗋 🗀 BuildingCl [located into building Building]		

# 20. Groups and permissions

CMDBuild permissions are based on:

- user groups (roles)
- permissions assigned to a user group on various items: classes (even with restrictions on rows and columns), processes, views, search filters, dashboards, reports, custom pages, import / export templates
- user group associations

Therefore you can:

- set user groups with specific permissions for each element configured in the system
- add users to one or more groups; the user inherits permissions from the group

Further functions, gathered in the TAB "UI Setup", allow the definition of additional permissions on elements of the user interface, removing some standard functionalities of CMDBuild and simplifying the interaction interface for some users' groups.

CMDBuild supports also the management of "multitenant", where a set of the CMDB data (section) is reserved to the users belonging to a suborganization of the CMDBuild instance, e.g. a Group Society, a Seat, a Division, etc.

## 20.1. Properties tab

The function allows you to create new users' groups and edit the properties of the old ones.

CMDBuild CMDBuil	d der	no					i SuperUser – 🗘 🌐 🕞
Navigation	•	Groups and	permission	s			
🕋 Home	^	+ Add group	Search on	all groups		Q X	Group: ChangeManager
Classes							
Processes		Properties	Permissions	Users list	UI configuration	Default fil	lters
Domains							
Lookup types		General pro	operties				
Views		Nama					Description
🕨 🖿 Search filters		ChangeMan	nger				Change manager
🕨 🖿 Dashboards		-	1801				
🕨 🖿 Reports		Type				_	Email
🕨 🖿 Menus		Normal				•	changemanager@example.com
Custom pages	4	Default page					
🕨 🖿 Custom components						* X	
DMS		Active					
Navigation trees							
🕶 🖿 Groups and permissions							
📽 Change manager							
📽 Guest							
📽 Hardware helpdesk							
📽 Hardware specialist							
📽 Network helpdesk							
Network specialist	~						Save Cancel
202 o c 1 1 1 1			ww	w.cmdbuild.or	g · Info · Co	pyright © Teo	cnoteca srl

There is the possibility of performing the following operations:

create a new users' group	+ Add group
<ul> <li>do searches on the configured groups</li> </ul>	Search on all groups <b>Q X</b>
edit the selected group	<b>B</b>
disable the selected group (i.e. set the status as non-active)	0

Each group needs some parameters to be compiled (metadata), as mentioned below.

## 20.1.1. General properties

- Activity name
- Description
- Type, which includes the following possibilities:
  - Normal: the most common one. It concerns operators using the application
  - Administrator in read-only mode: read-only access to the Administration Module
  - Limited administrator: possibility of working on the system configuration, except for the ones that edit the data model (classes, processes, domains)
  - User creation administrator: it can create only users and groups, useful especially in case of multitenant, to operate only on the assigned tenants
  - Complete administrator: use of all features of the Administrator Module without limitations
- Email: user's e-mail address, to receive any message provided by the system
- Starting page: it allows you to select the page where the application for the current users' group has to be opened when accessing the Management Module
- Active: the group is active and can be used

General properties			
Name		Description	<b>i</b>
ChangeManager		Change manager	
Туре		Email	
Normal	-	changemanager@example.com	
Default page			
	- X		
Active			

## 20.2. Permissions tab

The feature allows you to confer access permissions for the current users' group on various items configured in CMDBuild.

Through the second-level tabs described below, permissions can be defined on classes, processes, views, search filters, dashboards, reports, custom pages, import / export templates.

## 20.2.1. TAB Classes

This tab allows you to define permissions on classes defined in the system.

CMDBuild CMDBuild de	mo	曫 SuperU	ser 🗉 🏳 🏛 🕩
Navigation •	Groups and permissions		
A Home	+ Add group Search on all groups Q 🗶		Group: ChangeManager
Classes			
Processes	Properties Permissions Users list UI configuration Default filters		
🕨 🖿 Domains	Classes         Processes         Views         Search filters         Dashboards         Reports         Custom pages	Imports/Exports	Other permissions
🕨 🖿 Lookup types	Search in grid 🗙		Hierarchical view: 🗌 🖋
Views	Description 1 None	Read Write	Filters
Search filters	Vescription 1	incad write	Thiters Configu
Dashboards	APN		
Reports	Application		
🕨 🖿 Menus	Asset Management form		
Custom pages	Asset Management form field		
Custom components	Building		
DMS	Business service		TX EZ
Navigation trees	Change Management WO form		TX EZ
- E Groups and permissions	Change Management WO form field		TX DZ
🐮 Change manager	Client hardware		TX EZ
📽 Guest	Client peripheral		TX DØ
曫 Hardware helpdesk	Client software		TX DØ
曫 Hardware specialist	Client software		TX DØ
📽 Network helpdesk	Cluster		TX EZ
🐏 Network specialist	CM Workorder template		TX DZ
Ant o c c c c c c c c c c c c c c c c c c	www.cmdbuild.org · Info · Copyright © Ternoteca srl		V

#### There is the possibility of performing the following operations:

do searches on the configured permissions	Search in grid 🗙
<ul> <li>enable the hierarchical view (superclasses, subclasses)</li> </ul>	Hierarchical view: 🗌
edit the list of permissions	ø

If you choose to edit permissions, you can perform the following operations:

•	clone permissions from another group			Clone from 🔻
			<b>101</b>	Network helpdesk
		1	<b>20</b> 2	Software specialist
			**	Network specialist
•	set permissions that are the same for all rows of the list, working on the checks in the columns headers			
•	reduce the permission set on that class, both on rows when a filter is applied and on columns (see below the complete user interface)			T
•	delete the set restrictions			X
•	disable some actions on the CMDBuild standard user interface for the selected class (see below the complete user interface)			
•	remove the button disabling on the user interface			M
•	save the changes			Save
•	Exit without saving current edits			Cancel

#### Restriction of permissions on rows and columns

As mentioned above, you can reduce access permissions to the rows or columns of the selected class.

Through the "Filter" icon you can access a popup window that presents two tabs called "Privileges on rows" and "Privileges on columns".

#### Privileges on rows

The restriction of permissions on rows can be done by defining a filter in two different ways:

- by setting filter criteria on the attributes of the specified source class (Attributes tab), with the same modalities used in the Management Module for the advanced search
- by using a pre-defined PostgreSQL function, that will be created with the following criteria
  - it must report the comment "TYPE: function"
  - it has to include the input and output parameters, clearly showing the name of each of them
  - the input and output parameters have to be chosen among the following ones: "character varying", "boolean", "integer", "numeric", "double precision", "date", "time", "timestamp", "text" (not "bigint")
  - in case that the function becomes more "tuple" than the output values, you should use the syntax "Returns setof record"

Here are two samples of defining the filter.

Through the attribute filter set with the same modalities used in the Management Module for the advanced search:

CMDBuild	CMDBuild demo	🕍 SuperUser 🚽 🖉	) 🎟 🕩
Navigation	Groups and permissions		
🗥 Home	Edit filters of class: Desktop	×	ChangeManager
Classes	Rows privileges Columns privileges GIS privileges		
Processes	Attributes Function		
Domains			
Lookup type	Choose an attribute		🕽 Clone from 🔻
Views			Carfin
Search filter	Brand		Configu
Dashboards	Operator Value		
	Equals 💌 IBM	<b>→ ×</b> 💼	
Custom pag			
Custom con	Building		eø
DMS	Operator Value		
Navigation t	Equals AC - Aon Center	- × Q 🛍	
- E Groups and			
🐮 Change			
🕍 Guest			
📽 Hardwai	Allow re	eading to records that do not match the filter: 🗌	
📽 Hardwar			
📽 Network		Close	
📽 Network	k specialist		Save Cancel
1998 or 0	www.cmdbuild.org · Info · Copyright@Tec	noteca srl	

Through PostgreSQL function:

Q				
CMDBuild	CMDBuild demo	is SuperUser	↓ ■	•
Navigation	Groups and permissions			
🖀 Home	Edit filters of class: Desktop	×	ChangeMa	anager
Classes	Rows privileges Columns privileges GIS privileges			Ū
Processes	Attributes Function			
Domains			rmissions	
🕨 🖿 Lookup type	Choose a function		Clone fro	om 🔻
Views	•			
Search filter			Config	ʒu
Dashboards				
Reports				
Menus				
Custom page				
Custom con				
DMS				
Navigation t				
Groups and				
Change				
📸 Hardwa	Allow wooding to woodwide that do not	match the filters		
😁 Hardwai	Allow reading to records that do not	match the filter: 📋		
Setwork		Ok Close		7
Network	specialist		Cauta	
	·····		Save	Lancel
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In both cases, if the permission is write-type, you can specify if the rows not included in the filter can be displayed in only-read mode or not displayed at all.

### Privileges on columns

The restriction of permissions on columns can be done in the following ways:

- not-visible attribute
- only-visible attribute
- even-editable attribute

Here's an example of screenshot:

CMDBuild	CMDBuild d	emo			20	SuperUser 👻	↓ <b>■</b> ♥
Navigation	4	Groups and pe	ermissions				_
🖀 Home	Edit filters of cla	ass: Desktop				3	ChangeManager
Classes	Rows privileges	Columns privileges	GIS privileges				
Processes	Name		Description	None	Read	Write	
Domains	Code		Code			V	▲ armissions
Lookup type	Description		Description				🗋 Clone from 🔻
Views	Assignee		Assignee				
Search filter	Hostname		Hostname				Configu
Dashboards	SerialNumber		Serial number				<b>• 1</b>
Reports	Availability		Availability				
Custom page	Brand		Brand				
Custom con	Model		Model				
	PartNumber		Part number				
Navigation t	State		State				
Groups and	Complex		Complex				
🐮 Change	Environment		Environment				
🖀 Guest	Building		Building				
🖀 Hardwar	Floor		Floor			V	
📽 Hardwar	Room		Room	$\Box$	$\Box$		
🖀 Network						Ok Close	
📽 Network	specialist						Save Cancel
900 c C	· · · · · · · · · · · · · · · · · · ·		www.cmdbuild.org	teca srl			

## GIS privileges

The restriction of permissions on geographical attributes can be done in the following ways:

- not-visible attribute
- only-visible attribute
- even-editable attribute

Here's an example of screenshot:

CMDBuild	CMDBuild o	demo					<b>8</b> - 2	SuperUser 💌	4 🖩 🗭
Navigation		Groups and pe	ermissions						
🗥 Home	Edit filters of cl	lass: Desktop						×	ChangeManager
Classes	Rows privileges	Columns privileges	GIS privileges						
Processes	Name		Description		Default	None	Read	Write	-
🕨 🖿 Domains	Position		Position						armissions
🕨 🖿 Lookup type	E								🕇 Clone from 🔻
Views									
Search filter	1								Configu
Dashboards	5								
Menus									
Custom page	,								
Custom cor									
DMS									
Navigation	t								
🕶 🖿 Groups and									
🔡 Change									
🕍 Guest									
📽 Hardwa	1								
📽 Hardwa									
📽 Network			_		_	_		Close	
📽 Network	k specialist								Save Cancel
			www.cmd	build.org · Info · Cop	yright © Tecnotec	a srl			

#### GUI buttons control

You can enable (default) or disable all the permissions linked to insert, edit, delete, clone, graph access and print actions for the selected class from the user interface in the CMDBuild data Management Module.

It is also possible to enable (default) or disable all the permissions linked to the massive edit and massive delete operations on the selected class from the user interface in the CMDBuild data Management Module.

In conclusion you can also enable (default) or disable all the permissions linked to the Details, Notes, Relations, History, Email, Attachments, Scheduling TABs for the selected class from the user interface in the CMDBuild data Management Module.

Finally, you can define permissions on the attachments available in the class, according to the DMS category.

This option is only related to the CMDBuild standard GUI and has no consequences on the operations performed through other user interfaces or webservices.

Here's the screenshot of the pop-up window provided by the system.

Navigation Configurations   Navigation Image: Configuration (Configuration (Con		_								
Navigation G   Home Classes   Classes Viduate   Domains Viduate   Domains Oblete   Cone Relation chart   Search filters Cor   Dashboards Cor   Dashboards Cor   Sulk actions Cor   Bulk actions Cor   Bulk actions Cor   Bulk deletion Cor   Default View   Dashboards Cor   <	CMDBuild CMDBuild de	emo	Configurations			×		SuperUs	ser 🗸	
** Home ** Create   > Classes ** Update   > Domains ** Delete   > Domains ** Clone   ** Clone ** Clone from **   ** Relation chart ** Relation chart   > Dashboards * Peint   > Dashboards * Corr   > Reports Bulk actions   Custom pages Custom components   > DMS Default   > DMS Default   > Dashboards Default   Default Default   Default Default   > Dashboards Default   > Custom components Default   > DMS Default   > Dashboards Default   > Dashboards Default   > Dashboards Corr   >	Navigation •	Gr	Enabled actions			^				
Image: Search filters Image: Search filters   Image: Dest	A Home	L+				_			Group: <b>Ch</b>	angeManager
> he Processes > dupdate   > he Domains > dote   > he Lookup types > for Cone   > he Views > for Relation chart   > he Dashboards > for Print   > he Reports Cor   > he Reports Cor   > he Rulk actions > for Peinult   > he Custom pages Cus   > he Custom components Cus   > he Navigation trees Default   > he Navigation trees Des   > he Roups and permissions Des   > he Custom science Tabs	> 🖿 Classes		✓ Create			_				0 0
Imports Imports   Imports Corres   Imports Corres   Imports Corres   Imports Corres   Imports Imports   Imports Corres   Imports Imports   Imports <t< td=""><td>&gt; E Processes</td><td>Pr</td><td>🕑 Update</td><td></td><td></td><td>_</td><td></td><td></td><td></td><td></td></t<>	> E Processes	Pr	🕑 Update			_				
Image: book with types Image: book with types   Image: boo	🕨 🖿 Domains		🗹 Delete			_	Imports			
> b Views Cor   > b Search filters Des   > b Dashboards Cor   > b Reports Cor   > b Menus Cor   > b Custom pages Cus   > b Custom components Default   > b DMS Default   > b Navigation trees Default   > b Rapernissions Default   > b Crups and permissions Default   > b Search filters Default	🕨 🖿 Lookup types	Se	Clone			_			G	Clone from 🔻
> b Search filters Des Print   > b Dashboards Cor   > b Reports Cor   Cor Bulk actions   Cor Bulk delt   > b Custom pages Cor   > b Custom components Default   > b Navigation trees Default   > b Groups and permissions Des   Default Image: Change manager	Views		🗹 Relation chart			_	Deed	Marine -		
Image: Dashboards Cor	🕨 🖿 Search filters	Des	🕑 Print					vvrite	Filters	Configu
Image: balk actions Bulk actions   Image: balk actions Correst of the second seco	Dashboards	Car				_				
Menus Bulk edit   Custom pages Cus   Default Cus   Bulk deletion   Default   Default   Default   Default   Default   Tabs	Reports	Cor	Bulk actions			_				
> b Custom pages   > b Custom components   > b DMS   > b Navigation trees   > b Groups and permissions   Default   > b Custom components   > b Navigation trees   Default   > b Custom components   Default   > b Navigation trees   Default   Default   Default   > c Custom components   Default   Default   Default   > c Custom components   Default   Default   Default   Default   Default   Default   Default   Default	🕨 🖿 Menus	Cor	Bulk edit			_				
Custom components   Dat   Bulk deletion   Default   Default   Custom components   Default   Default   Tabs	Custom pages	<ul> <li>Cus</li> </ul>	Default			-				
Data balk detection     Data balk detection       Default     Default       Image: manager     Default	Custom components	Cus	Pulk deletion							
Des     Des       Groups and permissions     Des       Dis     Tabs	DMS	Dat	Default			-			<b>T</b> X	
Image: Groups and permissions     Des       Image: Diss     Tabs	Navigation trees	Des	Deitait						ΥX	
Dist Tabs	- E Groups and permissions	Des	Taka						ΥX	
	🕍 Change manager	Disl	Tabs						TX	
Em   Tab   Default   Disable   Enable	🕍 Guest	Emj	Tab	Default	Disable	Enable			TX	
Hardware helpdesk Ext. Detail	📽 Hardware helpdesk	Exte	Detail						TX	
Hardware specialist Flor Notes S C C C C C C C C C C C C C C C C C C	📽 Hardware specialist	Floo	Notes						▼ 7	
Image: Network helpdesk     For     Relations     Image: Object with the second seco	📽 Network helpdesk	For	Relations						TX	
Metwork specialist	📽 Network specialist		100 x			~ *			s	ave Cancel
Ok Cancel	948 p. c				Ok	Cancel			_	

## 20.2.2. Processes TAB

This tab allows you to define permissions defined in the system.

CMDBuild CMDBuild de	no		📸 SuperUs	er 🥆 🛱 🗭
Navigation •	Groups and permissions			
A Home	+ Add group Search on all groups Q 🗙			Group: ChangeManager
Classes				
Processes	Properties Permissions Users list UI configuration Default filters			
Domains	Classes Processes Views Search filters Dashboards Reports C	ustom pages	Imports/Exports	Other permissions
Lookup types	Search in grid 🗙			Clone from 🔻
Views		None Basic	Default Def + P	
E Search filters	Description 1			Filters Configu
Dashboards	Asset management			
🕨 🖿 Reports	Change management			
Menus				
Custom pages	CM Workorder			
Custom components	Dynamic child			
DMS	Incident management			
Navigation trees	Incoming email management			
- E Groups and permissions	IP Addresses management			TX EZ
🕍 Change manager	IT Process			TX EZ
🕍 Guest	IT process extra management			TX EM
📽 Hardware helpdesk	QR Code Generator			TX EM
📽 Hardware specialist	Request fulfilment			TX EZ
📽 Network helpdesk	RF Workorder			TX DØ,
Network specialist				Save Cancel

The same features described for classes are available, with the following differences:

- permission types are not "None", "Read", "Write". They are:
  - None: the process is not visible to the current group
  - Base: the process can be managed for the current group only in case the ongoing activity belongs to it (in contrast to the following type which keeps visible also the processes previously executed)
  - Default: permissions derived from the XPDL descriptor of the process are applied (a group of users can edit / advance a process if the current activity is in the "lane" of the current group, they can view a process if they edited / advanced it in a previous step)
  - Default + Read: besides permissions derived by the XPDL descriptor, the users' group has Read permissions on the process
- the disabling option is not available for certain buttons on the user interface of the Management Module
## 20.2.3. TAB Views

This tab allows you to define permissions on views defined in the system.

🗳 CMDBuild' CMDBui	d demo	SuperUs SuperUs	ser 🧹 🔔	≡ 🕩
Navigation	◀ Groups and permissions			
倄 Home	Add group Search on all groups Q X		Group: Chang	geManager
Classes				
Processes	Properties Permissions Users list UI configuration Default filters			
🕨 🖿 Domains	Classes Processes Views Search filters Dashboards Reports Custom pages	s Imports/Exports	Other permiss	ions
🕨 🖿 Lookup types	Search in grid 🗙		Clo	ne from 🔻
Views		None	Pead	
Search filters	Description 1			Configu
Dashboards	Active employee			
🕨 🖿 Reports				
🕨 🖿 Menus	Available desktop	<b>V</b>		
🕨 🖿 Custom pages	<ul> <li>CI with location</li> </ul>	×		
Custom components	Contract expiration			
DMS	Expiring warranty	<b>S</b>		e ø
Navigation trees				
- E Groups and permissions				
鑙 Change manager				
🕍 Guest				
📽 Hardware helpdesk				
📽 Hardware specialist				
📽 Network helpdesk				
📽 Network specialist			Save	Cancel
848 A. A. 1. 1. 1. 1.	▼			
	www.cmubuid.org into copyright @ fectioteca sh			

- None: the view is not visible to the current group
- Read: the view is visible to the current group

## 20.2.4. TAB Search filters

The search and filters tab allows you to define permissions on search filters defined in the system.

CMDBuild <sup>®</sup> CMDBuild der	MO 😤 SuperUser	- <u></u>	1	
Navigation •	Groups and permissions			
A Home	+ Add group Search on all groups Q 🗙	Group: Change	Manager	
Classes				
Processes	Properties Permissions Users list UI configuration Default filters			
Domains	Classes Processes Views Search filters Dashboards Reports Custom pages Imports/Exports	Other permissions		
Lookup types	Search in grid 🗶	Clone from 🔻		
Views		None	Dead	
E Search filters	Description 1	None		
Dashboards				
Reports	Active employees			
Menus	Chiudere			
Custom pages	Esecuzione			
Custom components	IM - Assigned to me			
DMS	IM - Assigned to my group			
Navigation trees	Prendere in carico			
Groups and permissions	RF - Assigned to me			
📽 Change manager	RF - Assigned to my group			
📽 Guest	Sospesi			
📽 Hardware helpdesk				
📽 Hardware specialist				
📽 Network helpdesk				
📽 Network specialist		Save	Cancel	
200 a c 1 1 1 1 1	uuuu amdhuild ara			

- None: the search filter is not visible to the current group
- Read: the search filter is visible to the current group

## 20.2.5. Dashboard tab

This tab allows you to define permissions on views defined in the system.



- None: the dashboard is not visible to the current group
- Read: the dashboard is visible to the current group

## 20.2.6. Report tab

This tab allows you to define permissions on reports defined in the system.

CMDBuild CMDBuild de	emo 曫 Superl	Jser 🔹 🗘 🗄	∃ 🕩
Navigation •	Groups and permissions		
A Home	+ Add group Search on all groups Q 🗙	Group: Chang	eManager
Classes			
Processes	Properties Permissions Users list UI configuration Default filters		
🕨 🖿 Domains	Classes Processes Views Search filters Dashboards Reports Custom pages Imports/Exports	Other permissio	ons
Lookup types	Search in grid 🗙	Clon	e from 🔻
Views		Nono	Poad
Search filters	Description †		
🕨 🖿 Dashboards	Active tickets in a specified date		~
🕨 🖿 Reports			
🕨 🖿 Menus			
🕨 🖿 Custom pages	AD connector - summary		
Custom components	AM - Barcode print		
DMS	AssetMgt - List		
Navigation trees	Barcode print		
- E Groups and permissions	IM - Average closing time		
📽 Change manager	IM - Open processes		
📽 Guest	IM - Timetable		
曫 Hardware helpdesk	LLDP Connector - Summary		
曫 Hardware specialist	Locations with assets		
📽 Network helpdesk	MTBF - Mean time between failures		
📽 Network specialist		Save	Cancel
100 c c 1 1 1 1	unuu emeluuid ava <u>Info</u> Convertate © Tospetese ed		

- None: the report is not visible to the current group
- Read: the report is visible to the current group

## 20.2.7. TAB Custom pages

This tab allows you to define permissions on custom pages defined in the system.



- None: the custom page is not visible to the current group
- Read: the custom page is visible to the current group

## 20.2.8. Import / Export tab

The Import / Export tab allows you to define permissions on the Import / Export templates configured in the system.



- None: the template is not visible to the current group
- Enabled: the template is usable by the current group

## 20.2.9. Other permissions TAB

This tab allows you to define the permissions on further features: GIS, BIM, Relation graph, Scheduler.

CMDBuild CMDBuild de	mo	SuperUser SuperUser		
Navigation •	Groups and permissions			
A Home	+ Add group Search on all groups Q 🗶		Group: Change	Manager
Classes				
Processes	Properties Permissions Users list UI configuration Default filters			
Domains	Classes Processes Views Search filters Dashboards Reports Custom pages Imports	/Exports	Other permission	ons
🕨 🖿 Lookup types	Search in grid 🗶		Clone	e from 🔻
Views		None	Read	Write
Search filters	Description			
Dashboards				
Reports	GIS			
🕨 🖿 Menus	BIM			
Custom pages	Relation graph			
Custom components	Scheduler			
DMS				
Navigation trees				
- E Groups and permissions				
🕍 Change manager				
曫 Guest				
📽 Hardware helpdesk				
📽 Hardware specialist				
🚰 Network helpdesk				
📽 Network specialist			Sa <u>ve</u>	Cancel
	uuuu emdhuild ara 🔐 lafa 🔐 Capurisht @ Taspatass!			

- None: the feature is not visible to the current group
- Read: the feature is visible to the current group
- Write: the feature allows writing operations to the current group

## 20.3. Users' list tab

This function allows you to associate one or more users to the current group.

You can drag and drop users from the list of available user (on the right) to the list of users in the group (on the left).

CMDBuild CMDBuild	d demo 📽 su	uperUser 🔻 🔔 🌐 🕞	
Navigation	• Groups and permissions		
<ul><li>☆ Home</li><li>▶ ■ Classes</li></ul>	Add group     Search on all groups     Q     X  Properties     Permissions     Uncer list     Unconfiguration     Default filters	Group: ChangeManager	
Processes	or configuration behave inters		
Domains			
🕨 🖿 Lookup types	Users assigned         Search users         X         1 records         All users         Search users	X 3 records	
Views	Username † Description Username †	Description	
Search filters	demouser demouser admin	admin	
Dashboards		quest	
🕨 🖿 Reports	guest	guest	
🕨 🖿 Menus	worktiow	workflow	
🕨 🖿 Custom pages	4		
Custom components			
DMS			
Navigation trees			
Groups and permissions			
🐮 Change manager			
📽 Guest			
📽 Hardware helpdesk			
📽 Hardware specialist			
📽 Network helpdesk			
📽 Network specialist			
	v		
	www.cmdbuild.org · Info · Copyright © Tecnoteca srl		

## 20.4. TAB UI setup

This function allows you to associate some permissions to the current group on UI elements of the Management Module.

CMDBuild CMDBuild de	mo	🚰 SuperUser 🔻 🔔 🌐 🕩							
Navigation •	Groups and permissions								
A Home	+ Add group Search on all groups Q 🗙	Group: ChangeManager							
Classes									
Processes	Properties Permissions Users list <b>UI configuration</b> Default filters								
> 🖿 Domains									
🕨 🖿 Lookup types	Enabled items in the "All items" navigation menu folder 🔿	^							
Views									
E Search filters	✓ Classes	🗹 Classes							
Dashboards	V Processes								
🕨 🖿 Reports	✓ Views								
🕨 🖿 Menus	𝐨 Dashboards								
Custom pages	🐨 Reports								
Custom components	✓ Custom pages								
DMS									
Navigation trees	Visible tabs on cards management $\land$								
- E Groups and permissions	✓ Detail								
鑙 Change manager	₩ Notes								
📽 Guest									
曫 Hardware helpdesk									
📽 Hardware specialist									
📽 Network helpdesk	Email	~							
曫 Network specialist		Save Cancel							
Pet o contra tra tra	www.cmdbuild.org → lofo → Copyright @Tecnotoca.crl								

It is possible to enable or disable, as described below:

- the entries of the submenu "All elements" of the navigation menu
- the available TABs for the card management
- the available TABs for the process management
- massive actions
- CMDBuild chat

Here follow all the details for each option.

## 20.4.1. Menu "All elements"

You can disable the following entries:

- Cards
- Processes
- Views

- Dashboard
- Report
- Custom pages

— Enabled items in the "All items" navigation menu folder  $\,\wedge\,$ 

- Classes
- Processes
- 🗹 Views
- 🗹 Dashboards
- Reports
- Custom pages

### 20.4.2. Classes management

You can disable the following tabs:

- Details
- Notes
- · Relations
- History
- Email
- Attachments
- Schedule

— Visible tabs on cards management  $\, \wedge \,$ 

- 🗹 Detail
- 🗹 Notes
- **☑** Relations
- 🗹 History
- 🗹 Email
- 🗹 Attachments
- Schedules

### 20.4.3. Process management

You can disable the following tabs:

- Notes
- Relations
- History
- Email

#### Attachments

Visible tabs on process instances management  ^
S Notes
Relations
✓ History
🗹 Email
Sector Attachments

## 20.4.4. Massive actions

For the current group you can set the following configurations for a massive modification and deletion on classes and for a massive abort on processes:

- · Default: according to the settings of CMDBuild instance
- Enabled
- Disabled

— Bulk actions  $\, \wedge \, - \,$ 

Default for cards bulk edit		Default for cards bulk deletion	
Default	-	Default	-
Default for processes bulk abort			
Default	-		

## 20.4.5. Chat

It is possible for the current group to enable or disable the CMDBuild chat.

— Chat ^ —

🗹 Allow chat

# 20.5. TAB default filters

This function allows you to specify a possible filter applied into the Module for the data Management, when a user of the current group opens a class or process.



There is the possibility of performing the following operations:

<ul> <li>edit default filters for the current group</li> </ul>
--

The function that edit default filters allows you to:

- display the tree with the class and process hierarchy
- select, for each class / process, the default filter (among the ones configured with the specific function) required when a user from the current group access to that class / process in the data Management Module

#### Administrator Manual

#### 20. Groups and permissions



# 21. Users

As previously described, in CMDBuild the security management is based on the users' groups management (roles). Diverse permissions are associated to these groups on several item types and granular until the restriction on single rows and columns of a class.

In case of multiple companies' use, or use among Departments or independent seats within a company, it is possible to configure CMDBuild in Multitenant mode, allowing each Tenant to work on an isolated CMDB subdivision.

CMDBuild allows you to manage single users that access the system associating them to one or more groups and one or more tenants.

Each user can access with the sum of permissions of groups and belonging tenants, or by selecting the desired group and tenant.

# 21.1. Properties

This feature allows you to create and edit system accounts.

CMDBuild CMDBuild	d de	mo							20	SuperUser	. □	•
Navigation • Users												
🕷 Home	^	+	Add user	Search all	users	Q <b>x</b>				4 records	Only active	users: 🗌
Classes			Username			Description		Email			Active	
Processes						Description		Email				
🕨 🖿 Domains		÷	admin			admin						
🕨 🖿 Lookup types			demouser			demo user						
Views			General pro	perties	Groups						ø 7	0
Search filters			Username					Description				
Dashboards			demouser					demo user				
🕨 🖿 Reports			Prove II									
🕨 🖿 Menus			EIIIdii									
Custom pages	4		Language Initial page									
Custom components												
DMS												
Navigation trees			Service									
Groups and permissions												
🕶 🖿 Users			Active									
🛔 Users	0											
Notifications												
Imports/Exports		÷	guest			guest						
🕨 🖿 Task manager		$\pm$	workflow			workflow						
Service bus												
	~					1. I	c					
				W	/ww.cmabu	iia.org · into	<ul> <li>Copyright © Te</li> </ul>	choleca sri				

There is the possibility of performing the following operations:

add a new user	+ Add user
<ul> <li>do searches on the configured users</li> </ul>	Search all users <b>Q</b> 🗙
display only active users	Only active users: 🗌
edit the selected user	<b>B</b> IN
display the complete information related to the selected user	Ľ
clone the selected user	Ē
disable the selected user (i.e. set the status as non-active)	0

For each user you are required to compile various information divided into the three following sections.

CMDBuild CMDBuild	d de	mo			i SuperUser 🤟 🛱 🕞
Navigation	•	Us	sers		
倄 Home	^	+	Add u	ser Search all users Q 🗙	4 records Only active users:
Classes					
Processes		_	User	User - demouser	2 <sup>*</sup> ×
Domains		±	adm	General properties	^
🕨 🖿 Lookup types			dem		
Views			Ger	Username	Description
🕨 🖿 Search filters			Use	demouser	demo user
🕨 🖿 Dashboards			den	Email	
🕨 🖿 Reports					
🕨 🖿 Menus			Ema	Language	Initial page
Custom pages				▼	· · · · ·
Custom components			Lan	Service	
DMS					
Navigation trees			Ser	Active	
Groups and permissions					
Users			Act	Deserve and the	
Lusers	e			Password A	
Notifications				Password	Confirm Password
Imports/Exports		÷	gues	۲	۲
Task manager		÷	work		
Service bus				Groups ^	
	$\checkmark$		_		
					Save Cancel

# 21.1.1. General properties

- Description: information used in the application header to recall the current user's name
- Email: user's email address, used to file notifications
- Language: default language to access the application
- Starting page: opening page when the current user access the application
- Service: it shows that it is a technical user used only by an automatic service
- Active: the user is active and can be used

General properties ^				
Username		Description		
demouser		demo user		
Email				
Language		Initial page		
	-		-	×
Service				
Active				

## 21.1.2. Password

The following information is required:

- Password: password to access the system (the inserted string is hidden when typing for security and privacy purposes)
- Confirm password

Password ^	
Password:	Confirm Password:
۲	٢

## 21.1.3. Belonging groups

- Default group: if compiled it is the group used for the login in case the multigroup option has not been chosen. In case the multigroup option is active, it is the group whose settings are used in the expected cases (process start, etc.)
- Multigroup: the user accesses the application with the sum of permissions of all groups

he/she belongs to (see next point), even in case the user is not asked for an access group when logging-in

• List of groups: groups belonging to the user can be selected. When logging-in they are suggested in case neither the default group nor the multitenant option are set

Groups ··	
Default group	
▼ ×	
Multigroup	
Group 1	Active
Change manager	
Guest	
Hardware helpdesk	
Hardware specialist	
Network helpdesk	
Network specialist	
Software helpdesk	
Software specialist	
SuperUser	

## 21.1.4. Belonging tenant

- Default tenant: if compiled, it is the tenant used for the login in case the multitenant option has not been chosen
- Multitenant: the user accesses the application with the visibility rules of all tenants he/she belongs to (see next point). Also in this case when logging-in the access tenant is not required
- List of tenants: tenants belonging to the user can be selected. When logging-in they are suggested in case neither the default tenants nor the multitenant option are set

#### Administrator Manual

active

- Tenants ^

#### Default tenant:

/ultitenant:	
Tenant	
Tenant A	
Tenant B	
Tenant C	
Tenant D	

# 22. Notifications

In CMDBuild there are notifications based on emails and messages starting from the application (inapp notifications) displayed through popup.

Notifications are controlled from the core for a better control and a simpler updating of sending parameters when they need to be edited.

In the Administration Module you can configure accounts for email outgoing (SNMP) and incoming (IMAP) and also templates used to send notifications to operators (workflow system, widget, Task manager, etc.), as email and in-app.

In particular the centralized definition of templates used to send notifications in the processes simplifies its maintenance, so that the XPDL descriptor has not to be edited.

## 22.1. Account

The function allows you to create new accounts to send and receive emails and edit the old ones.

CMDBuild CMDBuild	d de	no	鑙 SuperUser 🤟 🛄 🕩
Navigation	•	Email accounts	
Home	^	+ Add account Search in grid X	
Classes		Default Name 1 Address	
Processes			
🕨 🖿 Domains		default test@example.com	
Lookup types		General properties Outgoing Incoming	e 🖉 🖄 🖈
Views		Name	
Search filters		default	
🕨 🖿 Dashboards		licername Pacsword	
🕨 🖿 Reports		test@example.com	
Menus			
🕨 🖿 Custom pages	4		
Custom components			
DMS			
Navigation trees			
Groups and permissions			
Users			
- Notifications			
🔤 Email accounts			
🕨 🖿 Templates			
🔄 Email signatures			
🔛 Email queue			
· · · · ·	~	www.cmdbuild.org · Info · Copyright © Tecnoteca srl	

There is the possibility of performing the following operations:

configure a new account	♣ Add account
do searches on the configured accounts	Search in grid 🗙

edit the selected account	ø
display the complete information related to the selected account	C.
delete the selected account	Ŵ
set the current account as default account	*
execute a test for the correct configuration of the account	Test configuration
save inserted configurations	Save
exit without saving new configurations	Cancel

CMDBuild' CMDBui	ld de	mo			i SuperUser 🤍 🔔 🏢 🕞
Navigation	•	Ema	ail ac	counts	
倄 Home	^	+ /	Add a	default	2" X
Classes				General properties ^	^
Processes			De	Norre #	
🕨 🖿 Domains				default	
🕨 🖿 Lookup types			Ger		Password
Views			Nar	test@example.com	
🕨 🖿 Search filters			defa		
Dashboards			Hee	Outgoing ^	
🕨 🖿 Reports			test		
Menus				Address *	SMTP server
Custom pages	4		-	test@example.com	smp.example.com
Custom components				SMTP port	Sent folder
DMS					
Navigation trees					
Groups and permissions					
Users				Incoming ^	
- Notifications					
🔤 Email accounts				IMAP server	IMAP port
🕨 🖿 Templates				imap.example.com	143
🔄 Email signatures				Enable SSL	Enable STARTTLS
🔄 Email queue					· · · · · · · · · · · · · · · · · · ·
· · · · ·	~				Test configuration Save Cancel
			- L		

Each account requires several parameters to be compiled, which are divided into the sections described below.

## 22.1.1. General properties

- Name: account name
- · Username: used to access the email server
- · Password: used to access the email server

General properties ^		
Name *		
default		
Username	Password	
test@example.com	••••	٢

## 22.1.2. Outgoing mail parameters

The following information is required:

- E-mail address: e-mail account
- SMTP server: outgoing server
- SMTP port: server port
- · Sent folder: folder where sent e-mails are filed
- Enable SSL

— Outgoing ^ ———

Enable STARTTLS

Address *	SMTP server
test@example.com	smtp.example.com
SMTP port	Sent folder
25	
Enable SSL	Enable STARTTLS

### 22.1.3. Incoming mail parameters

- IMAP server: incoming server
- IMAP port: server port
- Enable SSL
- Enable STARTTLS

Incoming ^	
IMAP server	IMAP port
imap.example.com	143
Enable SSL	Enable STARTTLS

# 22.2. E-mail template

This function allows you to create or edit email notification templates that will be used for enabled features (workflow system, widget, task manager, etc.).

CMDBuild CMDBuild	d de	mo				Su	iperUser 🥆 🔔 🌐 🕩
Navigation	•	No	tifications - Te	mplates			
Domains	^	+	Add template 🔻	Search in grid	×		
🕨 🖿 Lookup types			Туре	Name 1	Description	Subject	То
Views	10		En all				
🕨 🖿 Search filters			Email	AMUS-Withdrawai-Touser	AMUS - Withdrawai - Email	Assetivigt n.{server:Numb	AssetMgt n.{server:Numb
🕨 🖿 Dashboards		±	Email	AM06-Replacement-ToUser	AM06 - Replacement - Em	AssetMgt n.{server:Numb	AssetMgt n.{server:Numb
Reports		÷	Email	AM07-Transfer-ToDstUser	AM07 - Transfer between	AssetMgt n.{server:Numb	AssetMgt n.{server:Numb
🕨 🖿 Menus		÷	Email	AM07-Transfer-ToOrigUser	AM07 - Transfer between	AssetMgt n.{server:Numb	AssetMgt n.{server:Numb
Custom pages			Email	CM-EmailReceivedNotifica	CM - Email Received Notifi	Answer received for Chan	Answer received for Chan
Eustom components			General prope	erties Template			e C 🗋 🛍
DMS			Name		Descrip	otion	
Navigation trees			CM-EmailRecei	vedNotification	CM - En	nail Received Notification	
Groups and permissions			Keensuns		Drome	t even	
🕨 🖿 Users			Reep sync		Promp	L Sync	
- Invifications							
🔄 Email accounts			Delay				
🕶 🖿 Templates	8		U				
🗹 Email							
🜲 In-app notification		$\pm$	Email	CM02-Classification-ToAp	CM02 - Classification - Em	Change Management n.{s	Change Management n.{s
Email signatures		$\pm$	Email	CM02-Escalation-ToDstRole	CM02 - Escalation - Email t	Change Management n.{s	Change Management n.{s
Email queue		$\oplus$	Email	CM03-StartApproval-ToDs	CM03 - Start approval - E	Change management n.{s	Change management n.{s
Imports/Exports		$\oplus$	Email	CM03-StartApproval-ToRe	CM03-StartApproval-ToRe	Change management n.{s	Change management n.{s
	~	<b>—</b>	Email	CM04 Apolycic ToDetDolo	CM04 Analysis Email to	Change management n fe	Change management n (c

## There is the possibility of performing the following operations:

create a new template	+ Add template
do searches on configured templates	Search in grid 🗙
edit the selected template	<b>A</b>
display the complete information related to the selected template	Z
clone the selected template	Ē
delete the selected template	Ŵ

CMDBuild CMDBuild d	mo	📽 SuperUser 🔻	$\bigtriangleup$	▦	
Navigation 4	Notifications - Templates - Email				
Domains	CM - Email Received Notification				27 X
🕨 🖿 Lookup types					^
Views	General properties A				
🕨 🖿 Search filters	Name * Description *				
🕨 🖿 Dashboards	CM-EmailReceivedNotification CM - Email Received Notificat	tion			
Reports	Keep sync Prompt sync				
🕨 🖿 Menus					
Custom pages	Delay				
Eustom components	Rone 👻				
DMS					
Navigation trees	Template ^				
Groups and permissions	Default account				
• 🖿 Users	default		-	×	
- Notifications	Content type				
🔄 Email accounts	HTML				
🕶 🖿 Templates	From				
💟 Email					
🌲 In-app notification	То				
🔄 Email signatures	{groupUsers:{cql:select Code from Role where Id={card:CurrentRole}}}				
🗹 Email queue	Cc				I
Imports/Exports					~
· · · · · · · · · · · · · · · · · · ·			Save	•	Cancel

Each template requires several parameters to be compiled, which are divided into the sections described below.

## 22.2.1. General properties

- Name: template name
- Description: template description
- Keep sync: it shows you that the text of the e-mail is automatically updated when attributes used like email parameters vary (default = yes)
- Confirm sync: it shows you that you have to confirm every time the e-mail sync edits the text when attributes used like parameters vary
- Delay: it requires that the e-mail is sent later (after 1-2-4 hours, 1-2-4 days, 1-2 weeks, 1 month)

— General properties ^ ——

Name *	Description *		
IM-EmailReceivedNotification	IM - Email Received Notification		
Keep sync	Prompt sync		
Delay			
None			

#### 22.2.2. Template

The following information is required:

- Default account
- Type of content: HTML or TEXT
- From: sender's address
- To: addressee's address (or list of several addresses separated by comma)
- Cc: copy carbon address (or list of several addresses separated by comma)
- Bcc: blind copy carbon address (or list of several addresses separated by comma)
- Subject: notification subject
- Body: notification body

Through CQL expressions you can customize your notification in each template field with information available in the current context (i.e. workflow variables used to send emails).

CQL expressions can include metadata you can define and consult through the icon "Show metadata" on the right above the field.

#### Administrator Manual

— Template ^		
·		
Default account		
default	•	×
Content type		
HTML		•
From		
То		
{groupUsers:{cql:select Code from Role where Id={card:CurrentRole}}}		
Cc		1
Rec		
Subject		
Answer received for Incident Management {card:Number}		
Body		
$\mathbf{B}  I  \underline{\mathbf{U}} \mid \underline{\mathbf{T}} \bullet  \boxed{\mathbf{M}} \bullet \mid \underline{\Xi}  \underline{\underline{\Xi}} \mid \boldsymbol{\aleph} \mid \underline{\underline{\Xi}}  \boxed{\underline{\Xi}} \mid \boldsymbol{\aleph} \mid \boldsymbol{\mathscr{D}} \mid \boldsymbol{\mathscr{D}} \mid \boldsymbol{\mathscr{D}} \mid \boldsymbol{\mathscr{D}}$		
An answer has been received by -email related to the Incident Management number {card:Number}		
Please find below the details about the message received:		
<ul> <li>Sender: {email:from}</li> <li>Subject: {email:subject}</li> <li>Body:</li> </ul>		
{email:content}		
This message was generated automatically by CMDBuild - Ready2Use For more information and to contribute to the resolution of this request, please login into the system .		

## 22.3. "In-app" notification template

This function allows you to create or edit in-app notification templates that will be used for enabled features (workflow system, widget, task manager, etc.).

CMDBuild CMDBuild	d dei	mo			SuperUser 👻 🗘	▦	
Navigation	•	Notifica	tions - <sup>-</sup>	Templates - In-app notification			
Domains	^	🕂 Add te	mplate	Search in grid			
🕨 🖿 Lookup types		Name	In-Ap	p notification			2 ×
Views	11		Cor				
Search filters			Ger	ieral properties A			
🕨 🖿 Dashboards		Gen	Name	*	Description *		
🕨 🖿 Reports		Nam	InAp	pNotification	In-App notification		
🕨 🖿 Menus		InAp					
Custom pages			Ten	nplate ^			
Custom components			То				
DMS			{gro	upUsers:{cql:select Code from Role where Id={card:CurrentR	ole}}}		
Navigation trees			Subje	ct			
Groups and permissions			Ansv	wer received for Change Management {card:Number}			
Users			Body				
- Invitications			An a	nswer has been received to an e-mail related to the Change	Management number {card:Number}		
🔄 Email accounts							
🕶 🖿 Templates							
🔛 Email							
🌲 In-app notification							
🔄 Email signatures							
🔄 Email queue							
Imports/Exports	~				_		
					Sav	re C	Cancel

Management features are the same of email notification ones.

Each template requires several parameters to be compiled, which are divided into the sections described below.

## 22.3.1. General properties

- Name: template name
- Description: template description

General properties ^					
Name *	Description *				
InAppNotification	In-App notification				

## 22.3.2. Template

The following information is required:

- To: addressee's address (or list of several addresses separated by comma)
- Subject: notification subject
- Body: notification body

Through CQL expressions you can customize your notification in each template field with information available in the current context (i.e. workflow variables used to send emails). CQL expressions can include metadata you can define and consult through the icon "Show metadata" on the right above the field.

— Template ^	
То	
{groupUsers:{cql:select Code from Role where Id={card:CurrentRole}}}	
Subject	=
Answer received for Change Management {card:Number}	
Body	1
An answer has been received to an e-mail related to the Change Management number {card:Number}	

This is an example of in-app notification received in the Administration Module.

#### Administrator Manual

#### 22. Notifications

🗳 CMDBuild demo 👹 SuperUser 🐖 🔔 🎟 🕪								
Navigation	avigation • Notifications - Templates - In-app notification						New request	
Menus	^	+	Add template	Search in grid.	ch in grid X Anderson Aarom: Lorem ipsu dolor sit amet.			Anderson Aaron: Lorem ipsum dolor sit amet.
🕨 🖿 Custom pages			Name		Description		Subject	Open
Custom components			CardEventNotif	ication			card modified	2 hours ago
DMS			General prop	erties Templa	te			View all
Navigation trees								
Groups and permissions			Name				Description	
🕨 🖿 Users			CardEventNot	ification				
- Notifications								
🔄 Email accounts		$\oplus$	InAppNotificati	on	In-App notification		Answer received for C	hange M Answer received for Change M
🕶 🖿 Templates								
💟 Email								
🌲 In-app notification								
🔄 Email signatures								
🔄 Email queue								
Imports/Exports								
🕨 🖿 Task manager								
Service bus								
🕨 🖿 Scheduler								
🕨 🖿 GIS								
BIM								
Localizations	$\checkmark$							
				www.cmdb	uild.org · Info ·	Copyright © Te	ecnoteca srl	

CMDBuild	CMDBuild demo	嶜 SuperUser 👻 🔔 🌐 🕩
Navigation	Notifications - Templates - In-app notification	
Manus	Notifications	×
Custom pag	New request	ش .
Custom pag	There is a new request from Anderson Aaron: Lorem ipsum dolor sit amet.	
	Open	
Navigation t	2 hours ago	
Groups and		
Users		
- In Notification		
💟 Email ac		or Change M
🔫 🖿 Templat		
🔛 Ema		
🥼 In-aj		
💟 Email sig		
🔛 Email qu		
) 🖿 Imports/Exp		
🕨 🖿 Task manag		
Service bus		
Scheduler		
🕨 🖿 GIS		
BIM		
Localizations	v	
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# 22.4. Email signatures

You can configure your signature and insert it at the bottom of your email text.



There is the possibility of performing the following operations:

create a new signature	
<ul> <li>do searched on the configured signatures</li> </ul>	Search in grid 🗙
edit the selected signature	<b>B</b> <sup>15</sup>
display the complete information related to the selected signature	Ľ
delete the selected signature	匬
disable the selected signature	$\oslash$
set the selected signature as default	

CMDBuild CMDBuild	d demo	📸 SuperUs	er – 🗘	⊞ ເ)
Navigation	• En	nail signatures		
<ul> <li>Domains</li> <li>Lookup types</li> </ul>	^ +	Add signature Search in grid		7 4
<ul> <li>In Views</li> <li>In Search filters</li> <li>In Dashboards</li> </ul>	E	General properties ^		
Reports     Menus	L	MarketingSignature Marketing signature Active		
Custom pages     Custom components     DMS		Signature *	الري	j <b>e</b> u
Navigation trees     Groups and permissions		Marketing Department Mobile +39 337 8231***	1 89	
Email accounts	L			
<ul> <li>Templates</li> <li>Email</li> <li>In-app notification</li> </ul>				
Email signatures	1			
Imports/Exports	~		Save	Cancel

Each signature needs some parameters to be compiled.

## 22.4.1. General properties

- Name: signature name
- Description: signature description
- Signature: signature text (HTML)

#### Administrator Manual

General properties A	
deneral properties	
Name *	Description *
MarketingSignature	Marketing signature
Active	
Signature *	jer
$B  I  \underline{U} \mid \underline{T} \bullet  \boxed{\blacksquare} \bullet  \boxed{\equiv}  \underline{\equiv}  \boxed{\equiv}$	% %   ≟≡   ≫   ⊿   ⊭*
Marketing Department	
Mobuile +39 337 8231***	

# 22.5. Email queue

The e-mail created by CMDBuild pass through a "queue", which can be checked through the features described in this paragraph.



There is the possibility of performing the following operations:

<ul> <li>Start the email queue (please note whether this is a test and no emails have to be sent)</li> </ul>	► Start
Stop the email queue	Stop
Force an email in queue to be sent	1

# 23. Import / Export

CMDBuild allows to configure templates including default parameters in order to execute massive data Import / Export operations, with many different formats, especially:

- · template files for Import / Export through files in CSV, XLS or XLSX format
- database template, to import data from relational database charts
- · GIS template, to import data from planimetries included in DWG files
- IFC template, to import IFC files produced by BIM 3D modelisation softwares

Such operations can be carried in an interactive mode from the Management Module or batch through the Task manager.

Templates gather all information necessary to automate the operation in case of batch execution and not to specify each time so many parameters in case of interactive execution.

# 23.1. Template file

It is possible to define both import and export templates through CSV, XLS, XLSX files.

In case of import template, the function can operate both in "merge" mode (updating the already available strings recognized through a unique key, inserting the new ones and managing the missing ones in a custom way) and in "add" mode.

## 23.1.1. Properties tab

CMDBuild CMDBuild	d dei	mo			📸 SuperUser 🔻	∴ ⊞	•	
Navigation	•	Import / Export file	e templates					
Menus	^	+ Add file template	Search on all import / export templates	Q <b>x</b>				
🕨 🖿 Custom pages		Properties						
Custom components						<i>*</i> [	 ነ ጠ	0
DMS						 		~
Navigation trees		General properties	^					
Groups and permissions		Code *		Description *				
🕨 🖿 Users		InternalEployeesList		Internal eployees list				
Notifications		Apply on *		Class *				
- Imports/Exports		Class		Internal employee				
🕶 🖿 File template	4							
Internal eployees		Type *		File Format *				
InternalEployeesLis	н	Export		CSV				
🕨 🖿 Database template		CSV separator *		CSV encoding				
🕨 🖿 GIS template		Semicolon		Default				
🕨 🖿 IFC template		Active						
🕨 🖿 Task manager								
Service bus								
🕨 🖿 Scheduler		Attributes ^						
GIS		Attribute	Column name	Mode	Default value			
BIM		Code	Number	Default				
Localizations	$\checkmark$	First name	Name	Default				~
			www.cmdbuild.org · Info · Copyr	ight © Tecnoteca srl				

#### There is the possibility of performing the following operations:

create a new template	♣ Add file template
search the template in the list	Search Q 🗙
edit the selected template	Ø
clone the selected template	Ē
delete the selected attribute	Ē
disable the selected attribute (i.e. set the status as non-active)	0

Each value of the list requires some parameters to be compiled, as described below.

General properties

The following information is required:

- Code: template code
- Description: short template description
- · Apply on: classes or domains
- Class / Process / Domain / View from join: it requires to select the type of element for the template
- Type: Import, Export, Import and Export (according to the type, some following parameters can be visible or hidden)
- File format: CSV, XLSX, XLS
- Active: it states whether the template is active and can be used

According to the format, some additional information is also required.

In case the format is CSV:

- CSV separator: "comma" or "semicolon" or "pipe (|)" or "TAB"
- CSV encoding

— General properties \land –

In case the format is XLSX or XLS:

- Header row number: position of the header row (column names)
- Data row number: position of the first row with data

Code *		Description *	
InternalEployeesListImport		Internal employees list import	
Apply on *		Class/Domain *	
Class	~	Internal employee	•
Туре *		File Format *	
Import	▼	XLSX	-
Header row number *		Data row number *	
1	*	2	*
Active			

#### **Attributes**

The following information is required:

The following information is required for the setting of attribute mapping:

• Attribute: attribute name of the class in CMDBuild

- Column name: name of the column in the import or output file
- Mode: in case of Reference or Lookup CMDBuild attributes, it allows you to specify whether the date has to be understood as "Id" (unique identification in CMDBuild), as "Code" (standard attribute of all CMDBuild classes) or as "Description" (standard attribute of all CMDBuild classes)
- Default: in case of Import template, it allows you to specify a default value if missing in the file to charge

Attributes 🔿									
Attibutes									
Attribute		Column name	Mode		Default				
FirstName		Name				5	$\mathbf{\Phi}$	$\mathbf{\Psi}$	×
LastName		Surname					Ϯ	$\mathbf{\Psi}$	×
Email		Mail					$\mathbf{\uparrow}$	4	×
State		State	Description				1	V	×
			 						-
Phone	•	Phone		•					+

## Dates format

The following information is required:

 Dates format: it is possible to choose one of the following formats (dd/mm/yyyy, dd-mmyyyy, dd.mm.yyyy, mm/dd/yyyy, yyyy/mm/dd, yyyy-mm-dd)

– Data format 🛆 -	ormat ^		
Date format	nat		
Default value	value 🔻	,	×

#### Import criteria

The following information is required only for Import and Import / Export templates:

Import modes: "Add" or "Merge"

In case of "Merge" mode, you are required to insert the following:

- Key attribute: you can specify a single or multiple attribute as univocal key to detect the CMDBuild data card to update
- Missing records: management mode of CMDBuild cards absent from the import file you want to synchronize, with the possibility to delete them, leave them untouched, edit an attribute representing the current state
- Handle missing records on error: it forces the execution of handing missing records according to the chosen criterion, also in case of an error during the import.

Only in case that for missing records you chose to edit an attribute that represents the current status, the following information is required:
- Attribute: in case the missing records are managed by editing a card attribute, it allows you to select it
- Value: in case the missing records are managed by editing a card attribute, it allows you to select the value

— Import criteria 🔿 ———————————————————————————————————				
Import mode *				
Merge	~			
Import key attributes				
Code	×			
E-mail	×			
Select an attribute	•			
Missing records *		Handle missing records on error		
Modify card		$\swarrow$		
Attribute to edit *		Value		
State	-	Non-active	-	×

## Export filter

The following information is required only for Export and Import / Export templates:

• Filer: it has to be applied to export only the information you need

Export filter A			
Filters			
<b>T X</b>			

The definition of export filter is similar to the advanced filter management in the CMDBuild card management.

Here is a sample.

CMDBuild	CMDBuild demo		Super 🐕	User 💌	¢	⊞	•	
Navigation	Import / Export file templates							
перогез	Filter for Template: Internal eployees list			×		_		
Menus	Attributes Pelations Eurotion Full text							
Custom pag_	Activities Relations Function Function							
Custom con	Choose an attribute							^
DMS	<b>•</b>							
Navigation t	End of contract							
Groups and					ተ	$\mathbf{\Psi}$	x	
Users	Operator	Value				$\mathbf{\Psi}$	×	
Notification:	Greater than 💌	2025-12-31	Ê	甸	1	+	×	
- Imports/Exp					Т		×	
👻 🖿 File tem	Organizational unit						+	
🔲 Inte	Operator	Value						
🔲 Inter	Fauals	Developers	хQ	m				
🕨 🖿 Databas								
🕨 🖿 GIS temj								
🕨 🖿 IFC temp								
🕨 🖿 Task manag								
Service bus								
🕨 🖿 Scheduler								
🕨 🖿 GIS			Ok	Close	-	×		
BIM								~
Localizations	✓				Sav	e	Cancel	
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#### **Notifications**

The following information is required:

- Operations notification template: you have to choose a template that is configured in the notification management menu
- Account: it allows you to overwrite the standard account with another chosen account

In case of batch execution (through a specific task configured in the Task Manager) of the import or export function, the above-mentioned parameters are necessary in order to get news about the outcome of the operation.

In case of interactive execution, the same information is displayed in the user interface.

Notifications ^			
Notification template	Account		
<b>▼</b>	default	•	×

# 23.2. Database template

It is possible to define import templates from relational database like PostgreSQL, My SQL, Oracle or SQLServer.

The definition of the template can include the update of several classes of CMDBuild, starting with several charts of the relational database.

You can operate the data update in "merge" mode, updating the already available lines (recognized through a unique key), inserting the new ones and managing the missing ones in a custom way or in "add" mode.

# 23.2.1. Properties tab

CMDBuild CMDBuild d	mo	曫 SuperUser 👻 🗘	▦	•
Navigation 4	Import database templates			
Menus	+ Add database template Search Q X			
🕨 🖿 Custom pages	Properties Mappings Import on			
Custom components				n o
DMS				~
Navigation trees	General properties A			
Groups and permissions	Code Description			
🕨 🖿 Users	OUSynchronization OU synchronization			
Notifications	Active			
- Imports/Exports	<b>V</b>			
🕨 🖿 File template				
🕶 🖿 Database template	Database configuration ^			-
OU synchronization	Duivey along parts			
🕨 🖿 GIS template	Postares			
FC template				- 1
🕨 🖿 Task manager	Address			
Service bus	jdbc:postgresql://localhost:5432/test			
🕨 🖿 Scheduler	Username Password			
🕨 🖿 GIS	postgres			
BIM	Error template			
Localizations	CM - Email Received Notification			
🕨 🖿 Server management				~
	www.cmdbuild.org · Info · Copyright © Tecnoteca srl			

There is the possibility of performing the following operations:

create a new template	+ Add database template					
search the template in the list	Search Q 🗙					
edit the selected template	Ø					
delete the selected template	Ŵ					
disable the selected attribute (i.e. set the status as non-active)	0					

Each value of the list requires some parameters to be compiled, as described below.

#### **General properties**

Concept proportion

The following information is required:

- Code: template code
- Description: short template description
- Active: it states whether the template is active and can be used

Code *	Description *	
EmployeesSynchronization	Employees Synchronization	
Active		

#### **Database configuration**

- Driver name: PostgreSQL, MySQL, Oracle and SQLServer database are supported, having installed the proper access drivers
- Address: connections string to the database
- Username: username to access the database
- Password: password to access database
- · Error email template: select one of the email templates for the notifications of some errors

Database configuration 个			
Driver class name *			
Postgres	•		
Address *			
jdbc:postgresql://localhost:5432/postgres			
Username *		Password *	
postgres		•••••	۲
Error email template			
Empty template	•		

# 23.2.2. TAB Mapping

🗳 CMDBuild CMDBuild de	mo	📸 SuperUser 🔻 🗘 🌐 🕩
Navigation 4	Import database templates	
Menus	+ Add database template Search Q X	
🕨 🖿 Custom pages	Properties Mappings Import on	
Custom components		
DMS	T Add mapping Search in mappings Q X	
Navigation trees	Class/Domain Description Type	Active
Groups and permissions	OU OUImport Import	
🕨 🖿 Users	General properties Attributes Import criteria	Ø 🖸 🗋 Ø
Notifications	Code * Description *	
- Imports/Exports	OUImport OUImport	
File template	(	
🕶 🖿 Database template	Apply on * Class/Domain *	
OU synchronization	Class Organizational unit	
🕨 🖿 GIS template	Table name *	
FC template	test	
🕨 🖿 Task manager	Active	
Service bus	$\blacksquare$	
🕨 🖿 Scheduler		
🕨 🖿 GIS		
BIM		
Localizations		
Server management		
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There is the possibility of performing the following operations:

add a new mapping	+ Add mapping					
search the mapping in the list	Search Q 🗙					
edit the selected mapping	Ø					
open the selected mapping in edit	2					
clone the selected mapping	Ē					
delete the selected mapping	Ŵ					
disable the selected mapping (i.e. set the status as non-active)	0					

Each attribute needs several parameters (metadata) to be compiled, as described mentioned below.

#### 23. Import / Export

🗳 CMDBuild CMDBuild	dei	mo									🐮 SuperUser		¢	⊞	۲	
Navigation	•	Imp	oort c	latabase temp	olates											
Menus	^	+ /	Add da	tabase template	Search o	n all ETL gates			Q <b>x</b>							
Custom pages		Proj	perties	5 Mappings	Import on											
Custom components     DMS		+ /	Add m	apping Search	ו in mapping	gs <b>Q</b>	×									
Navigation trees			Class	Add databas	e template	e - OUImport									¥*	×
Groups and permissions		Ξ	OU	General pro	perties ^ -											
Users			Gen	Code *					Descript	tion *						
Notifications			Cod	OUImport					OUImp	port						
Imports/Exports			OUI	Apply on *					Class *							
🕨 🖿 File template	4			Class				~	Organi	izational unit				~		
🕶 🖿 Database template			Арр	Table name *					0							
OU synchronization			Clas	test												
🕨 🖿 GIS template			Tab	Active												
IFC template			test													
🕨 🖿 Task manager			Acti	_												
Service bus				— Attributes 🦯	、											-
🕨 🖿 Scheduler		_	_	Attributo		Column name		Mode		Default va	luo					
🕨 🖿 GIS				Company		Company	-	Code		Delauteva	lue			սե	~	
BIM				Code		Number		Default					1	Ť	x	
Localizations				Description		Description		Default					1	$\mathbf{\Psi}$	×	
Server management				Parent		Parent		Code				San P	•	$\mathbf{\Psi}$	×	¥
0	v												Sav	e	Cance	1

#### **General properties**

- Code: mapping code
- Description: mapping description
- Apply on: classes or domains
- Class / domain: it requires to select the class or domain
- Table name: database origin table
- Active: the mapping is active and can be used

Code *		Description *	
M01		M01	
Apply on *		Class/Domain *	
Class	~	Internal employee	-
Table name			
Person			
Active			

#### Attributes

The following information is required for the setting of attribute mapping:

- Attribute: attribute name of the class in CMDBuild
- Column name: name of the column in the import or output file
- Mode: in case of Reference or Lookup CMDBuild attributes, it allows you to specify whether the date has to be understood as "Id" (unique identification in CMDBuild), as "Code" (standard attribute of all CMDBuild classes) or as "Description" (standard attribute of all CMDBuild classes)
- Default: in case of Import template, it allows you to specify a default value if missing in the file to charge

— Attributes A ———							
Attibutes							
Attribute	Column name	Mode	Default				
Code	Number	Default		San P	4	$\mathbf{\Psi}$	×
First name	Name	Default		5	4	$\mathbf{\Psi}$	×
Last name	Surname	Default		San P	4	$\mathbf{\Psi}$	×
Organizational unit	Business unit	Code		San B	4	$\mathbf{\Psi}$	×
Phone	Telephone	Default		San P	4	$\mathbf{\Psi}$	×
State	State	Code		San B	1	$\mathbf{\Psi}$	×
							_
Select an attribute 🔹							+

## Import criteria

The following information is required:

• Import modes: "Add" or "Merge"

In case of "Merge" mode, you are required to insert the following:

- Key attribute: you can specify a single or multiple attribute as univocal key to detect the CMDBuild data card to update
- Missing records: management mode of CMDBuild cards absent from the import file you want to synchronize, with the possibility to delete them, leave them untouched, edit an attribute representing the current state

Only in case you chose to edit an attribute representing the current state in the previous step, here are required the following additional information:

- Attribute: in case the missing records are managed by editing a card attribute, it allows you to select it
- Value: in case the missing records are managed by editing a card attribute, it allows you to select the value

— Import criteria  ^	
Import mode *	
Merge	•
Import key attributes	
Code	×
Select an attribute	•
Missing records *	
Modify card	-
Attribute to edit *	
Code	-

# 23.2.3. TAB Import

CMDBuild CMDBuild	l dei	no					i SuperUser 🔻 🗘 🌐 🕩	
Navigation	•	Import o	database template	es				
Menus	^	🕂 Add da	atabase template	earch				
🕨 🖿 Custom pages		Properties	s Mappings Imr	port on				
Custom components			11 0					
DMS			Destination					^
Navigation trees			Destination					-
Groups and permissions			Cluster					
Users			Company					
Notifications			Corporate	group				
Imports/Exports			Customer					
🕨 🖿 File template	4							
🕶 🖿 Database template				item				
OU synchronization			Grid - Asse	et				
🕨 🖿 GIS template			Hardware					
IFC template				hardware				
🕨 🖿 Task manager				ent peripheral				
Service bus				Monitor				
Scheduler				Printer				
🕨 🖿 GIS				mputer				
DIM BIM				Desktop				$\checkmark$
Localizations		<					3	•
Server management	~						Save Cano	el
			www.c	mdbuild.org	Info · Copyright	© Tecnoteca srl		

You can select the classes for which the Import function has to appear in the contextual menu through the current template.

# 23.3. GIS template

The import template can be defined from planimetries included in DWG files.

The definition of the template can include the update of several classes of CMDBuild, starting with several planimetries layers.

Data are always updated in "merge" mode, updating the already available lines (recognized through a unique key), inserting the new ones and managing the missing ones in a custom way.

# 23.3.1. Properties tab

🔆 CMDBuild CMDBuild demo			🐮 SuperUser 👻	Ĵ	⊞	•		
Navigation	•	Import GIS templates						
Custom pages	^	+ Add GIS template Search	Q ×					
Custom components		Properties Mappings Import on						
DMS							凬	0
Navigation trees						5		^
Groups and permissions		General properties ^						
🕨 🖿 Users		Code	Description					
Notifications		StandardDWG	Standard DWG file					
🕶 🖿 Imports/Exports		Active						
🕨 🖿 File template		ſ.						
🕨 🖿 Database template	4							
🕶 🖿 GIS template		Shape properties ^						-
Standard DWG file		Enable shane import						
🕨 🖿 IFC template								
🕨 🖿 Task manager		Import CAD lavers	Source lavers to exclude					
Service bus		Exclude	0.ROOM LAYER.DEVICE LAYER					
Scheduler			, _ , _					
I GIS								
BIM		Target class	Target geo attribute					
Localizations		Floor	Shape					
Server management		Import key attribute	Import key source					
System config	~	Code	FLOOR_FILE_TAG					$\checkmark$
		www.cmdbuild.org · Info · Copyright	© Tecnoteca srl					

There is the possibility of performing the following operations:

create a new template	+ Add GIS template
search the template in the list	Search Q 🗙
edit the selected template	Ø
delete the selected template	匬
disable the selected attribute (i.e. set the status as non-active)	0

Each value of the list requires some parameters to be compiled, as described below.

#### **General properties**

The following information is required:

- Code: template code
- Description: short template description
- · Active: it states whether the template is active and can be used

General properties ^	
Code *	Description *
MOD01	DWG standard files
Active	

## Shape properties

- Enable Shape import: planimetries components not referred to CMDBuild items (walls, windows, stairs, etc.) have to be imported into Geoserver as background files, in case the flag is selected further parameters will appear.
- Layer to import: all, elements to include or to exclude
- · List of elements to include / exclude
- Target class
- Target geo attribute
- Import key attribute
- Import key source

Shape properties ^	
Enable shape import 🗹	
Import CAD layers	Source layers to exclude
Exclude	0,ROOM_LAYER,DEVICE_LAYER
Target class	Target geo attribute
Floor	Shape
Import key attribute	Import key source
Code	FLOOR_FILE_TAG

# 23.3.2. TAB Mapping

CMDBuild CMDBuild d	emo				嶜 SuperUser 🔻 🔔 🎟 🕩				
Navigation •	In	nport GIS templates							
Custom pages	ł	Add GIS template     Search	c	2 ×					
Custom components	Р	roperties Mappings Import o	n						
DMS									
Navigation trees	-	Search in mapping	igs 🔍 🔺						
Groups and permissions		Class/Domain	Description	Туре	Active				
Users	ŧ	Building	Building data	Import	<b>S</b>				
Notifications		Floor	Floor data	Import					
- Imports/Exports		General properties Attribute	s Import criteria		e 🗇 🖓 🖉				
🕨 🖿 File template		Codo *		Description *					
🕨 🖿 Database template	•	EloorData		Eloor data					
🕶 🖿 GIS template		Hoorbata							
Standard DWG file		Class		Source layer *					
🕨 🖿 IFC template		Floor		CM_MASTER					
🕨 🖿 Task manager		Active							
Service bus									
🕨 🖿 Scheduler									
🕨 🖿 GIS	Ð	Room	Room data	Import					
DIM BIM	÷	Notebook	Notebook data	Import					
Localizations									
🕨 🖿 Server management									
System config									
		www.cmdbu	ild.org · Info · Copyright © T	ecnoteca srl					

There is the possibility of performing the following operations:

add a new mapping	♣ Add mapping
search the mapping in the list	Search in mappings Q 🗙
edit the selected mapping	e de la companya de la
open the selected mapping in edit	Ŋ
clone the selected mapping	
delete the selected mapping	Ê
disable the selected mapping (i.e. set the status as non-active)	0

Each attribute needs several parameters (metadata) to be compiled, as described mentioned below.

CMDBuild CMDBuild	d der	no				🐏 SuperUs	ser –	Ĺ	Ĵ 8	⊞
Navigation		Add GIS template - Floc	or data							2 ×
Custom pages	^	— General properties ^ – Code *			Description *					
<ul> <li>Custom components</li> <li>DMS</li> </ul>	-	FloorData			Floor data					
Navigation trees		Class *			Source layer *					
Groups and permissions		Active		~	CM_MASTER					
Users     Notifications		V								
Imports/Exports		Attributes ^								_
<ul> <li>File template</li> <li>Database template</li> </ul>	4	Attribute	DWG property	Mode	Default v	alue				
🕶 🖿 GIS template		Code Name	global.FLOOR_FILE_TAG global.FLOOR_FILE_TAG					ተ ተ	ψ ) Ψ )	к х
Standard DWG file	۰.	Building	global.BUILDING_FILE_TAG	Code			Contraction of the second	•	4 3	ĸ
Task manager	L	Select an attribute 🔻							{	۰
Service bus										
Scheduler		Import criteria ^								-
▶ ■ GIS ▶ ■ BIM		Import key attributes								
Localizations		Code		×						
Server management		Select an attribute		-						
System config	~							Save	с	ancel

# General properties

- Code: mapping code
- Description: mapping description
- Class/Domain: for import mapping
- Source layer: source layer in the DWG file
- Active: the mapping is active and can be used

— General properties ^ ———		
Code *		Description *
FloorData		Floor data
Class *		Source layer *
Floor	- x	CM_MASTER
Active		

#### Attributes

The following information is required for the setting of attribute mapping:

- Attribute: attribute name of the class in CMDBuild
- DWG property: property name in the DWG file
- Mode: in case of Reference or Lookup CMDBuild attributes, it allows you to specify whether the date has to be understood as "Id" (unique identification in CMDBuild), as "Code" (standard attribute of all CMDBuild classes) or as "Description" (standard attribute of all CMDBuild classes)
- Default value

— Attributes ^ —							
Attribute	DWG property	Mode	Default value				
Code	global.FLOOR_FILE_TAG			S MA	4	$\mathbf{\Psi}$	×
Name	global.FLOOR_FILE_TAG				4	$\mathbf{\Psi}$	×
Building	global.BUILDING_FILE_TAG	Code			$\mathbf{T}$	ৢ	×
				_			
Select an attribute	•						+

## Import criteria

The following information is required:

- Key attribute: you can specify a single or multiple attribute as univocal key to detect the CMDBuild data card to update
- Missing records: management mode of CMDBuild cards absent from the import file you want to synchronize, with the possibility to delete them, leave them untouched, edit an attribute representing the current state

Only in case you chose to edit an attribute representing the current state in the previous step, here are required the following additional information:

- Attribute: in case the missing records are managed by editing a card attribute, it allows you to select it
- Value: in case the missing records are managed by editing a card attribute, it allows you to select the value

— Import criteria  ^			
Import key attributes			
Code	×		
Name	×		
Select an attribute	▼		
Missing records *			
Modify card	▼		
Attribute to edit		Value	
	-		

# 23.3.3. TAB Import

🗳 CMDBuild demo 🔮 SuperUser 👻 🗘 🎟					•			
Navigation	•	Import	port GIS templates					
Custom pages		🕂 Add G	IS template Search	Q <b>x</b>				
Custom components		Propertie	s Mappings Import on					
DMS								
Navigation trees			Destination				^	
Groups and permissions							_	
Users								
Notifications			Company				- 1	
Imports/Exports			Corporate group					
🕨 🖿 File template								
🕨 🖿 Database template	4							
🕶 🖿 GIS template								
Standard DWG file			Grid - Asset					
🕨 🖿 IFC template			Hardware					
🕨 🖿 Task manager			Client hardware					
Service bus			Client peripheral					
🕨 🖿 Scheduler			L Monitor					
🕨 🖿 GIS			L' Printer					
BIM			Computer					
Localizations			L Desktop				~	
Server management		<					>	
System config	~					Save	Cancel	
			www.cmdbuild.org · Info · Co	pyright © Tecnoteca srl				

You can select the classes for which the Import function has to appear in the contextual menu through the current template.

# 23.4. BIM template

The import template can be defined from BIM models included in IFC exchange files (Industry Foundation Classes).

The definition of the template can include the update of several classes of CMDBuild, starting with several entities described in the model.

Data are always updated in "merge" mode, updating the already available lines (recognized through a unique key), inserting the new ones and managing the missing ones in a custom way.

# 23.4.1. Properties tab

🗳 CMDBuild CMDBuild de	mo	🐮 SuperUser 👻		
Navigation 4	Import IFC templates			
Menus	+ Add IFC template Search: Q X			
🕨 🖿 Custom pages	Properties Mappings Import on			
🕨 🖿 Custom components				n o
DMS			6	
Navigation trees	General properties A			
Groups and permissions	Code Description			
🕨 🖿 Users	Building01 Building - Template 1			
Notifications	Active			
- Imports/Exports				
File template	4			
🕨 🖿 Database template	Association properties ^			
🕨 🖿 GIS template	Has payont			
🕶 🖿 IFC template				
Building - Templat	Associated class			
Task manager	Building			
Service bus	0			
🕨 🖿 Scheduler	Source paths Attributes			
🕨 🖿 GIS				
BIM				
Localizations				
Server management				
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#### There is the possibility of performing the following operations:

create a new template	+ Add IFC template
search the template in the list	Search Q 🗙
edit the selected template	<i>a</i> r
delete the selected template	Ē
<ul> <li>disable the selected attribute (i.e. set the status as non-active)</li> </ul>	0

Each value of the list requires some parameters to be compiled, as described below.

# General properties

The following information is required:

- Code: template code
- Description: short template description
- · Active: it states whether the template is active and can be used

General properties A						
	Code	Description				
	Building01	Building - Template 1				
	Active					

# 23.4.2. TAB Mapping

CMDBuild CMDBuild c	demo	)			嶜 SuperUser 👻 🔔 🌐 🕩				
Navigation •	Ir	Import IFC templates							
Menus		Add IFC template Search	C	2 <b>x</b>					
Custom pages	Р	Properties Mappings Import of	n						
Custom components			0 *						
DMS		Add mapping Search in mapping	1gs 🔍 🗙						
Navigation trees		Class/Domain	Description	Туре	Active				
Groups and permissions		Building	Building	Import					
Users		General properties Attributes	s Import criteria		Ø 🖻 🗇 📎				
Notifications		Code *		Description *					
- Imports/Exports		Building		Building					
🕨 🖿 File template		5414118		24.14.1.6					
🕨 🖿 Database template		Apply on *		Class/Domain *					
🕨 🖿 GIS template		Class		Building					
🕶 🖿 IFC template		IFC entity path *							
Building - Templat		IFCBuilding							
🕨 🖿 Task manager		Active							
Service bus									
Scheduler									
🕨 🖿 GIS	÷	Floor	Floor	Import					
BIM	÷	Room	Room	Import					
Localizations									
Server management	/								
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There is the possibility of performing the following operations:

add a new mapping	+ Add mapping
search the mapping in the list	Search in mappings <b>Q</b> 🗙
edit the selected mapping	Ø
open the selected mapping in edit	C.
clone the selected mapping	Ē
delete the selected mapping	Ē
disable the selected mapping (i.e. set the status as non-active)	$\oslash$

Each attribute needs some parameters (metadata) to be compiled, as described mentioned below.

🗳 CMDBuild 🔹 CMDBuild	l den	no				📽 SuperUser		Ţ	⊞	
Navigation	•	Add IFC template - Build	ing						~	>
перого	^	— General properties $\wedge$ —								
Menus										
🖿 🖿 Custom pages		Code *			Description *					
Custom components	-	Building			Building					
DMS		Apply on *			Class *					
Navigation trees		Class		~	Building			-		
Groups and permissions		IFC entity path *								
	-11	IFCBuilding								
		Active								
Notifications										
Imports/Exports										
🕨 🖿 File template	•	Attributes ^								
🕨 🖿 Database template										
🕨 🖿 GIS template		Attribute	IFC property	Mode	Default value					
🕶 🖿 IFC template		Code	Name	Default		Can <sup>®</sup>	1	+	×	
Building - Templat		Name	LongName	Default			Ť	<b>\</b>	×	
Tack manager	11	Address	BuildingAddress/Address	Default			T		×	
		Postcode	BuildingAddress/PostalCo	Default		GP (M)	小 一	J.	x	
Service bus						5			••	
Scheduler		Select an attribute 🔹							+	
GIS GIS										
BIM										
Localizations		— Import criteria ^ ——								
Server management		turn and us a dia de						_		
3	Ŧ						Sa	ve		

#### General properties

- Code: mapping code
- Description: mapping description
- Apply on: classes or domains
- Class / domain: it requires to select the class or domain

- IFC entity path: entity location in the IFC file structure
- Active: the mapping is active and can be used

General properties ^			
Code *		Description *	
Building		Building	
Apply on *		Class *	
Class	-	Building	~
IFC entity path *			
IFCBuilding			
Active			

#### Attributes

The following information is required for the setting of attribute mapping:

- Attribute: attribute name of the class in CMDBuild
- Column name: property in the IFC file
- Mode: in case of Reference or Lookup CMDBuild attributes, it allows you to specify whether the date has to be understood as "Id" (unique identification in CMDBuild), as "Code" (standard attribute of all CMDBuild classes) or as "Description" (standard attribute of all CMDBuild classes)

— Attributes ^ —							
Attribute	Column name	Mode	Default				
Code	Name	Default		Carlo B	ተ	$\mathbf{\Psi}$	×
Name	LongName	Default		San P	$\mathbf{\Phi}$	$\mathbf{\Psi}$	×
Address	BuildingAddress/Address	Default		San P	$\mathbf{\Phi}$	$\mathbf{\Psi}$	×
City	BuildingAddress/Town	Default		<b>San</b> t	4	$\mathbf{\Psi}$	×
Postcode	BuildingAddress/PostalCo	Default		<b>Sant</b>	4	↓	×
Select an attribute	•						+

#### Import criteria

- Key attribute: you can specify a single or multiple attribute as univocal key to detect the CMDBuild data card to update
- Missing records: management mode of CMDBuild cards absent from the import file you want to synchronize, with the possibility to delete them, leave them untouched, edit an attribute representing the current state

Only in case you chose to edit an attribute representing the current state in the previous step, here are required the following additional information:

- Attribute: in case the missing records are managed by editing a card attribute, it allows you to select it
- Value: in case the missing records are managed by editing a card attribute, it allows you to select the value

— Import criteria ^ ———	
Import mode *	
Merge	•
Import key attributes	
Code	×
Name	×
Select an attribute	•
Missing records *	
No delete	

# 23.4.3. TAB Import

🗳 CMDBuild demo 📽 SuperUse				📽 SuperUser 🔻	∴ ⊞	•		
Navigation	•	Import	port IFC templates					
Menus	^	+ Add IF	C template Search	Q <b>x</b>				
🕨 🖿 Custom pages		Propertie	s Mappings Import on					
🕨 🖿 Custom components								
DMS			Destination				^	
Navigation trees								
Groups and permissions								
Users								
Notifications								
Imports/Exports								
🕨 🖿 File template	4							
🕨 🖿 Database template								
🕨 🖿 GIS template								
🔻 🖿 IFC template			Haroware					
🔲 Building - Templat								
🕨 🖿 Task manager								
Service bus								
🕨 🖿 Scheduler								
🕨 🖿 GIS								
BIM							~	
Localizations		<					>	
Server management	$\checkmark$					Save	Cancel	
			www.cmdbuild.org · Info · Copyright ©	Tecnoteca srl				

You can select the classes for which the Import function has to appear in the contextual menu through the current template.

# 24. Task manager

CMDBuild allows you to configure automatic operations executed in background by a Task Manager integrated in the system.

The Task Manager groups the management of such operations. In this way you can have a general view on the active tasks and on the execution parameters.

The types of available tasks are:

- inbox: control the e-mail inbox, file emails into the system together with any attachments, notify their incoming and start a workflow
- · send email, also with attached report
- scheduling of Import / Export files, based on file template
- scheduling of Import from database, based on database template
- scheduling of Import GIS, based on GIS template
- scheduling of IFC Import, based on IFC template
- Scheduling workflow: automatic start of a workflow

CMDBuild CMDBuil	d dei	mo	i SuperUser 🤝 💭 🌐 🕩			
Navigation	•	Tasks				
DMS	^	+ Add task	×	Se	ervice status: 🗢 N	ot running 🖸
Navigation trees		② Read emails	Code 1	Description 1	Active	
Groups and permissions		O Send email	CM-NotifyReceivedAnswers	CM-NotifyReceivedAnswers		
🕨 🖿 Users		<ul> <li>Import/Export file</li> </ul>	GenericEmailReceiver	GenericEmailReceiver		
Notifications		<ul> <li>Import database</li> </ul>	GenericEmailReceiver-Replies	GenericEmailReceiver-Replies		
Imports/Exports		Import GIS	IM-NotifyReceivedAnswers	IM-NotifyReceivedAnswers		
🔻 🖿 Task manager		Import IFC	IM-SLA-Control	IM-SLA-Control		
② Read emails	10	② Start workflow	RF-NotifyReceivedAnswers	RF-NotifyReceivedAnswers		
Send email			,	,	、	
Import/Export file	4					
Import IFC						
<ul> <li>Start workflow</li> </ul>						
Service bus						
🕨 🖿 Scheduler						
🕨 🖿 GIS						
BIM						
Localizations						
🕨 🖿 Server management						
🕨 🖿 System config	~					

There is the possibility of performing the following operations:

configure a new task

🕂 Add task

search a task in the list	Search Q 🗙
running a single task	e
start a task	•
stop the execution of a task	0
expand the current row and display the task data	÷
edit the selected task	Ø
display the complete information related to the selected task	C
clone the selected task	Ē
delete the selected task	圃

The current configuration of the Task Manager is filed in the DB and every time CMDBuild restarts the active tasks are automatically restarted.

Below an example of list and task detail.

🗳 CMDBuild demo 🔮 SuperUser 🗸 🆽 🕪								
Navigation •	Ta	asks						
> DMS	+	Add task 🔻 Search in grid	×	Servi	ce status	: 🗢 Not	running 🗹	
Navigation trees		Туре	Code 1	Description 1	Active			
Groups and permissions	$\pm$	Read emails	CM-NotifyReceivedAnswers	CM-NotifyReceivedAnswers		€	• •	
🕨 🖿 Users		Read emails	GenericEmailReceiver	GenericEmailReceiver		€	•	
Notifications		Contract Contract	Denvire Denvire Netifier				· 「「」 命	
Imports/Exports		General properties Settings C	ron Parsing Process Notificat	ions		<i>•</i> U		
🕆 🖿 Task manager		Name *	Dese	cription *				
② Read emails		GenericEmailReceiver	Gen	ericEmailReceiver				
③ Send email		Account *	Inco	ming folder *				
<ul> <li>Import/Export file</li> </ul>		default	INBO	XC				
Import database								
Import GIS	ŧ	Read emails	GenericEmailReceiver-Replies	GenericEmailReceiver-Replies			•	
Import IFC	Æ	Read emails	IM-NotifyPeceivedApswers	IM-NotifyDeceivedAnswers		0	NO.	
③ Start workflow					-	0		
Service bus		Start Workflow	IM-SLA-Control	IM-SLA-Control		۲		
Scheduler	Ŧ	Read emails	RF-NotifyReceivedAnswers	RF-NotifyReceivedAnswers		€		
🕨 🖿 GIS								
BIM								
Localizations								
Server management								
System config								
		www.cmdbuild.c	org · Info · Copyright © Tecnote	eca srl				

CMDBuild <sup>®</sup> CMDBui	ld de	mo					📽 SuperUser 🤝	Ĵ	⊞	۲
Navigation	•	Та	isks							
<ul> <li>DMS</li> </ul>	^	+	Add tas	k 🔻 Search in grid 🗙			Service stat	us: 🗢 N	lot run	ning 🗹
Navigation trees			Туре	Step 1 of 6 - Read emails Task - GenericEmailRecei	iver	r			<u>د</u> م	×
Groups and permissions		ŧ	Read	General properties ^						Ξ.
<ul> <li>Notifications</li> </ul>			Read	Name *		Description *				
Imports/Exports			Gene	GenericEmailReceiver		GenericEmailReceiver				-
🔻 🖿 Task manager			Nam	Account *		Incoming folder *				
② Read emails	10		Gene	default 💌		INBOX				
② Send email			Acco							
<ul> <li>Import/Export file</li> </ul>			defau							
Import database										
Import GIS		Ŧ	Read							-
Import IFC		-	Deed							
② Start workflow			кеас							
Service bus		±	Start v							
🕨 🖿 Scheduler		÷	Read							
🕨 🖿 GIS										
BIM										
Localizations										
🕨 🖿 Server management										
System config	~			Prev Next				Save	Canc	el

For each task typology there is a specific wizard that supports its configuration. It is described in detail in the following paragraphs.

# 24.1. Task inbox management

The task for the email incoming waits for the emails to be filed into a specific IMAP folder of a certain account, verifies if it coincides with any prearranged filter criteria and carries out the recommended instructions.

Such activities include also:

- sending notifications
- saving attachments in Alfresco,
- starting workflows

For example you can start this function in order to start Incident Management processes when you receive an e-mail from users, you can also manage any replies from users in a following step of the same workflow, etc.

The wizard includes four pages described below.

#### 24.1.1. Page 1 of the wizard

The following information is required:

- Name: task name
- Description: task description
- Account: post account to control the incoming e-mails (see chapter related to the Email management)
- Inbox: IMAP folder to control the incoming e-mails

General properties A	
Name *	Description *
CM-NotifyReceivedAnswers	CM-NotifyReceivedAnswers
Account *	Incoming folder *
default	INBOX

#### 24.1.2. Page 2 of the wizard

- Type of filter, which can be:
  - None
  - · Regex: filter with regular expression, you can assemble it following our guide
  - · PostgreSQL function: function defined in the database, with a selection list
  - This is a reply to an email sent from CMDBuild: in order to link it to the card related to the initial mail
  - This is not a reply to an email sent from CMDBuild
- Filter on sender: it includes a possible Regex filter set on the e-mail sender in order to

exclude less interested e-mails; it is expressed as regular expression and can be set through a proper pop-up window

- Filter on the subject: it includes any Regex filter set on the subject of the e-mail in order to exclude less interested e-mail; it is expressed as regular expression and can be set through a proper pop-up window
- Function: it allows to select the PostgreSQL function that implements the filter, in case this option has been chosen
- Processed e-mails: IMAP folder for processed e-mails
- Move any emails that do not satisfy the filter: flag that required the relocation of the emails discarded by the filter
- Discarded e-mails: IMAP folder for discarded e-mails
- Advanced answer recognition: uses "tags" in the header of the mail to obtain useful info and link input email to output ones and to the related data cards

— Settings ^			
Filter type *			
Regex	-		
Sender *		Subject *	
.*		.*	
			.:
Processed folder *			
processed			
Move rejected not matching			
Advanced reply recognition			

#### 24.1.3. Page 3 of the wizard

The information related to the scheduling ways of the task is required:

- Simple mode: with the options "every hour", "every day", "every month", "every year"
- Advanced mode: with the same options and the same syntax as the schedule tool "cron" available in Linux

Cron ^	
Cron *	
Advanced	~
L	
Minutes *	*
Hour *	*
Day *	*
Month *	*
Day of week *	?

## 24.1.4. Page 4 of the wizard

- E-mail body parsing: it enables the email body parsing
- Key start delimiter: it allows to specify the initial delimiter of the possible key field available in the e-mail
- Key final delimiter: it allows to specify the final delimiter of the possible key field available in the e-mail
- Value start delimiter: it allows to specify the initial delimiter value field available in the e-mail
- Value end delimiter: it allows to specify the final delimiter of the value filed available in the e-mail
- Attachment filing into DMS: it enables the attachment filing into DMS
- Action on attachments: any file attached in the email can be linked to the email card in CMDBuild, or to the data card
- Category: it requires to select the category that should be associated with the attachment (all the entries of all the documental categories are available)
- Import GIS attachment: enables importation of the DWG attachment file, if present
- GIS template: allows to select the GIS Template you want to use

Parsing ^		
Body parsing		
Key start delimiter		Key end delimiter
Value start delimiter		Value end delimiter
Save attachemnts to DMS		
Action on attachments		Category *
Attach to email	-	Document
Import GIS		
GIS template *		
Standard DWG file	×	

#### Note:

The "Body parsing" mechanism allows you to recognize and manage in the workflow any attributes whose value was inserted in the e-mail body, for example:

```
Email body
[key]Requester[/key]<value>John Smith</value>
[key]Description[/key]<value>The printer will not turn on</value>
[key]Priority[/key]<value>Medium</value>
```

## 24.1.5. Page 5 of the wizard

- · Start process: it enables the process starting
- Process: name of the starting process (chosen in the list of available processes)
- · Advance workflow: the process can be advanced to the following step
- Attachment filing into DMS: it enables the attachment filing into DMS, linked to the process
- Category: it requires to select the category that should be associated with the attachment (all the entries of all the documental categories are available, if configured for the selected process)
- Mapping of fields: indication of the email fields that have to be reported in the starting process

Process ^		
Start process		
Process *	Advance workflow	
Incident management 🔹		
Save Attachments	Category	
	Technical documents	
Process attributes		
Name V.	alue	
Area A	rea 🥒	X
Number IE		×
Requester U	ser 🥒	×
•		t

# 24.1.6. Page 6 of the wizard

- · Send notification email: it enables the notification sending
- Email template: it requires to select one of the templates preconfigured with the proper function (see chapter relate to the e-mail management menu)

Notifications ^	
Send notification email	Email template *
$\checkmark$	-

# 24.2. Send email task

This function allows you to schedule the automatic and recurring sending of an email, with the option to attach a report.

You can predefine the value criteria of the report parameters, obtaining in this way the sending of reports which depend on the time of the task execution.

The wizard includes three pages, described below.

## 24.2.1. Page 1 of the wizard

The following information is required:

- Name: task name
- Description: task description

General properties A		
Name *	C	Description *
InventoryReport		Monthly dispatch of the inventory report

# 24.2.2. Wizard page 2

- Account: email recipient
- Template email: you can use this template when you send email (see chapter related to the email management)
- Email variables: you can define context variables, which can be used for the calculation of the report parameters
- Attached report: it enables a report attached to the email
- Report: allows to select the report to send
- Format: allows to specify the format of the report, choosing from the provided ones
- Report parameters: the system presents the list of parameters provided by the selected report and allows compilation

— Settings ^			
Account *		Email template *	
default	•	CM - Email Received Notification	•
Email variables			
Variable	Va	alue	
Date	18	3/09/2020	A ×
			··· +
			T
Attach report			
$\mathbf{\overline{\mathbf{A}}}$			
Report *		Format *	
Workplaces inventory	-	PDF	-
Report parameters			
Paramater		Value	
printdate		Date	Salt.

# 24.2.3. Wizard page 3

The information related to the scheduling ways of the task is required:

- Simple mode: with the options "every hour", "every day", "every month", "every year"
- Advanced mode: with the same options and the same syntax as the schedule tool "cron" available in Linux

— Cron ^ —	
Cron *	
Advanced	▼
Minutes *	*
Hour *	*
Day *	*
Month *	*
Day of week *	?

# 24.3. Task import / export scheduling by file

The task allows you to execute data import or export operations in batch mode through file, using specific templates described in the related chapter.

The wizard includes four pages described below.

## 24.3.1. Page 1 of the wizard

The following information is required:

Name: task name

General properties A

- Description: task description
- Type: import or export
- · Template: choice of import / export template

Name *	Description *
InternalEmployeesListImport	InternalEmployeesListImport
Туре *	Template *
Import 💌	Internal employees list import

#### 24.3.2. Page 2 of the wizard

The following information is required:

· Source: File in the server or URL

In case the source is a file in the server, the following information is required:

- Directory: server or shared folder including the file
- File pattern: name or pattern for the file recognition
- Post import action: it deletes or disables the file (it is renamed with a predefined pattern) or move the file (in this case the new folder is required) or no action

Settings ^	
Source *	
File on server	
Directory *	File pattern *
/share	InternalEmployees.CSV
Post import action *	Directory *
Move files -	/share/temp

## 24.3.3. Page 3 of the wizard

The information related to the scheduling ways of the task is required:

- Simple mode: with the options "every hour", "every day", "every month", "every year"
- Advanced mode: with the same options and the same syntax as the schedule tool "cron" available in Linux

Ŧ
*
*
*
*
?
_

# 24.3.4. Page 4 of the wizard

The following information is required:

• Notification mode: in case of errors or always or never

In the first two cases the following information is required:

- Execution email template: it requires to select one of the templates preconfigured with the proper function (see chapter relate to the e-mail management menu)
- Template email of error notification: it requires to select one of the templates preconfigured with the proper function (see chapter relate to the e-mail management menu)
- Account: it requires to select one of the accounts preconfigured with the proper function (see chapter relate to the e-mail management menu)
- Attach report: requests to attach the report, actions and possible errors to the mail

- Notifications A			
Notifications			
Notification mode *			
Un errors	•		
Even il terrerilete		A	
Email template		Account	
CM - Email Received Notification	-	Defined in email template	- x
		I	
Notification email template		Attach import report	
AM07 - Transfer between user - Email to orig. user	- X		

# 24.4. Task import scheduling by database charts

The task allows you to execute data import or export operations in batch mode from relation database charts, using specific database templates described in the related chapter of this manual.

The wizard includes four pages described below.

## 24.4.1. Page 1 of the wizard

The following information is required:

- Name: task name
- Description: task description

General properties	
Name *	Description *
EmployeesSynchronization	Employees synchronization

## 24.4.2. Page 2 of the wizard

The following information is required:

- Database template: choice of the import database template to apply
- Address: connection string to the external database (the one set in the template can be kept as default)
- Username: access username to the external database (the one set in the template can be kept as default)
- Password: access password to the external database (the one set in the template can be kept as default)

— Settings ^			
Database template *			
Employees Synchronization	•		
Address			
As defined in database template			
Username		Password	
As defined in database template		As defined in database template	٢

## 24.4.3. Wizard page 3

The information related to the scheduling ways of the task is required:

- Simple mode: with the options "every hour", "every day", "every month", "every year"
- Advanced mode: with the same options and the same syntax as the schedule tool "cron"
#### available in Linux

— Cron ^ —	
Cron *	
Advanced	~
Minutes *	*
Hour *	*
Day *	*
Month *	*
Day of week *	?
Day of Week "	:

### 24.4.4. Wizard page 4

The following information is required:

• Notification mode: in case of errors or always or never

In the first two cases the following information is required:

- Execution email template: it requires to select one of the templates preconfigured with the proper function (see chapter relate to the e-mail management menu)
- Template email of error notification: it requires to select one of the templates preconfigured with the proper function (see chapter relate to the e-mail management menu)
- Account: it requires to select one of the accounts preconfigured with the proper function (see chapter relate to the e-mail management menu)
- Attach report: requests to attach the report, actions and possible errors to the mail

Notifications ^					
Notification mode *					
On errors		•			
Email template			Account		
CM - Email Received Notification		•	Defined in email template	~	×
Notification email template			Attach import report		
AM07 - Transfer between user - Email to orig. user	•	×	$\mathbf{\overline{\mathbf{A}}}$		

# 24.5. Task import scheduling by GIS planimetries

The task allows you to execute data import or export operations in batch mode from GIS planimetries, using specific database templates described in the related chapter of this manual.

The wizard includes four pages described below.

### 24.5.1. Page 1 of the wizard

The following information is required:

- Name: task name
- Description: task description

 General properties A			
Name *	I	Description *	
DWGStandardFiles		DWGStandardFiles	

## 24.5.2. Page 2 of the wizard

The following information is required:

- GIS template: choice of the GIS import template to apply
- Source: File in the server or URL
- Directory: server folder where you can find the DWG file to import
- File pattern: name or pattern for the DWG file recognition
- Post import action: it deletes or disables the file (it is renamed with a predefined pattern) or move the file (in this case the new folder is required) or no action

— Settings ^ —		
GIS template *		
Standard DWG file	- X	
Source *		
File on server	▼	
Directory *		File pattern
\share\gis		Floor.dwg
Post import action *		Directory *
Move files	-	\share\gis\temp

#### 24.5.3. Wizard page 3

The information related to the scheduling ways of the task is required:

• Simple mode: with the options "every hour", "every day", "every month", "every year"

 Advanced mode: with the same options and the same syntax as the schedule tool "cron" available in Linux

▼
*
*
*
*
?

### 24.5.4. Wizard page 4

The following information is required:

• Notification mode: in case of errors or always or never

In the first two cases the following information is required:

- Execution email template: it requires to select one of the templates preconfigured with the proper function (see chapter relate to the e-mail management menu)
- Template email of error notification: it requires to select one of the templates preconfigured with the proper function (see chapter relate to the e-mail management menu)
- Account: it requires to select one of the accounts preconfigured with the proper function (see chapter relate to the e-mail management menu)
- Attach report: requests to attach the report, actions and possible errors to the mail

•			
	Account		
-	Defined in email template	-	×
	Attach import report		
_ •			
• <b>×</b>			
	• •		▼       Account         ▼       Defined in email template         ▼       Attach import report         ▼       ※

# 24.6. Task import scheduling by IFC file (BIM models)

The task allows you to execute data import or export operations in batch mode from IFC exchange files (format to export 3D BIM models), using specific database templates described in the related chapter of this manual.

The wizard includes four pages described below.

#### 24.6.1. Page 1 of the wizard

The following information is required:

- Name: task name
- Description: task description

General properties ^	
Name *	Description *
BuildingTemplate1	Building - Template 1

### 24.6.2. Page 2 of the wizard

The following information is required:

- BIM template: choice of the import template to apply
- Import from: provides "File" or "Project" options

In case you import from a file, the following information is required:

- Directory: server or shared folder including the file
- File pattern: name or pattern for the file recognition
- Post import action: it deletes or disables the file (it is renamed with a predefined pattern) or move the file (in this case the new folder is required) or no action

In case you import from a project, the following information is required:

• Project name: for a description of BIM

In both cases you need:

Association mode: automatic or static

— Settings ^	
IFC template *	
Building - Template 1	,
Import from *	
File	·
Directory *	File pattern
/share/ifc	Building01.ifc
Post import action *	Directory *
Move files	/share/gis/temp
Association mode *	
Automatic	7

### 24.6.3. Wizard page 3

The information related to the scheduling ways of the task is required:

- Simple mode: with the options "every hour", "every day", "every month", "every year"
- Advanced mode: with the same options and the same syntax as the schedule tool "cron" available in Linux

— Cron ^ —	
Cron *	
Advanced	•
Minutes *	*
Hour *	*
Day *	*
Month *	*
Day of week *	?

### 24.6.4. Wizard page 4

The following information is required:

· Notification mode: in case of errors or always or never

In the first two cases the following information is required:

- Execution email template: it requires to select one of the templates preconfigured with the proper function (see chapter relate to the e-mail management menu)
- Template email of error notification: it requires to select one of the templates preconfigured with the proper function (see chapter relate to the e-mail management menu)

- Account: it requires to select one of the accounts preconfigured with the proper function (see chapter relate to the e-mail management menu)
- Attach report: requests to attach the report, actions and possible errors to the mail

Notifications ^			
Notification mode *			
On errors	-		
Email template		Account	
CM - Email Received Notification	-	Defined in email template	- x
Notification email template		Attach import report	
AM07 - Transfer between user - Email to orig. user	<b>- x</b>		

# 24.7. Scheduling task for starting workflow

This task allows you to schedule a workflow configured in CMDBuild.

The wizard includes two pages described below.

### 24.7.1. Page 1 of the wizard

The following information is required:

• Name: task name

General properties **^** 

- Description: task description
- Process: starting workflow
- Job username: to be used to start the workflow (from which permissions derive, according to the predefined group)
- Process attributes: list of attributes and values to initialize some starting process attributes

Name *	Description *	
IM-SLA-Control	IM-SLA-Control	
Process	Job username	
SLA IT Process	admin	
Process attributes		
Name 1	/alue	
Description	Name 🧳	<b>` X</b>
Workflow	ncident Management 🧳	, <b>X</b>
Execution date		+

## 24.7.2. Page 2 of the wizard

The information related to the scheduling ways of the task is required:

- Simple mode: with the options "every hour", "every day", "every month", "every year"
- Advanced mode: with the same options and the same syntax as the schedule tool "cron" available in Linux

— Cron ^ —

Cron *		
Advanced		•
Minutes *	*	
Hour *	*	
Day *	*	
Month *	*	
Day of week *	?	

# 25. Service bus

CMDBuild is a web enterprise system, implemented in SOA architecture (Service Oriented Architecture) and designed to grant interoperability solutions.

In the most efficient implementations, an architecture like this is supported by a BUS Service (or ESB, Enterprise Service Bus), a software infrastructure (middleware) for the interoperability among applications and systems through standard services for coordination, security, messaging, routing and transformations.

The CMDBuild Service Bus includes:

- management of data flows and messages (receipt, routing, elaboration, sending)
- distributed management of the charge related to some batch processes
- input/output modules with features of coordination among data sending / receiving / sync processes
- error and notification management
- "webhook" features for the subscription of a notification service in case of certain events in the CMDB
- supporting the "chat" service for the communication among CMDBuild users

The CMDBuild Service BUS is designed with a plugin architecture, where standard basic components available for everybody, standard advanced components supplied with the subscription and custom components can coexist.

# 25.1. Bus descriptor

CMDBuild Service Bus behavior is defined through objects, called Bus descriptors, that describes data flow and the transformation and elaboration logic.

Each descriptor includes:

- a schema that describes components corresponding to execution steps and other resources
- a YAML script including custom code and/or calls to CMDBuild API or other services

살 CMDBuild CMDBuild de	mo		醬 SuperUser 👻 🔔 🌐	
Navigation •	Bus descriptors			
Dashboards	+ Add bus descriptor Search on all descriptors	Q <b>X</b>	Bus descriptor: <b>Bus ex</b>	ample
Menus	Properties			<b>□</b> 0
Custom pages     Gustom components	General properties			^
DMS     Navigation trees	Name * BusExample	Description * Bus example		
Groups and permissions	Enabled			
B Users     Notifications	<b>V</b>			
Imports/Exports     Task manager	Params			
Service bus	Key Key01	<b>Value</b> Value01		
Bus descriptors     Bus example	Disabled elements Codelist of disabled elements (comma separated strings)			
Example descriptor				
Scheduler				
<ul> <li>In GIS</li> <li>In BIM</li> </ul>	Configuration			7
Localizations	1 # yaml-language-server: \$schema=http://team.cmdbuild.org/re 2 descriptor: BusExample www.cmdbuild.org · Info · Convr	sources/cmdbuild/etl/waterway/config/v1	/schema.json	<u>^</u> ~

There is the possibility of performing the following operations:

Add a new rule of deadline generation	+ Add bus descriptor
Do searches among inserted rules	Search on all descriptors <b>Q X</b>
Edit the selected bus descriptor	ø
Delete the selected bus descriptor	圃
<ul> <li>Disable the selected bus descriptor (i.e. set the status as no active)</li> </ul>	on- ⊘

Each bus descriptor needs some parameters to be compiled (metadata), as mentioned.

## 25.1.1. General properties

- Name: bus descriptor name
- Description: bus descriptor description
- Active: it states whether the bus descriptor is active and can be used

General properties	
Name *	Description *
BusExample	Bus example
Enabled	

### 25.1.2. Parameters

You can specify a list of parameters as follows:

- Key: parameter key given to the bus descriptor (in order to parameterize its behavior)
- Value: value given to the Bus descriptor

The following additional parameter is also required:

• Disabled elements: you are required to state any components of the Bus descriptor you want to disable in order to debug or for other needs

Params	
Кеу	Value
Key01	Value01
Disabled elements	
Codelist of disabled elements (comma separated strings)	

### 25.1.3. Configuration

- YAML code: Bus descriptor body, YAML format
- File: file including the Bus descriptor body, in YAML format, an alternative to the previous one

Configuration		
YAML 1		×*
File		
	Browse	

# 25.2. Configurations

The function allows to set all configuration parameters of the CMDBuild Service Bus.

At the moment you can only enable or disable the Service Bus.



# 26. Schedule

The scheduling helps operators to check procedures related to, for example, contracts with customers and suppliers, orders, certifications, warranties, recurring operations on assets, etc.

Deadlines can be generated automatically from the system when inserting new data cards including data attributes marked as "deadline", but also can be inserted manually into the resulting Scheduling file.

In the first case the Administration Module allows you to define generation criteria associated to any type of "Data" attribute of any class, specifying the ones that can be displayed or edited from operators.

# 26.1. Rule definition

This function allows you to create new rules for the generation of deadlines and to edit the properties of the old ones.

CMDBuild CMDBuild	🗳 CMDBuild CMDBuild demo 🔮 SuperUser 🗉 🗘 🎟 Թ										
Navigation	•	Sc	heduler								
<ul> <li>Divide types</li> <li>Views</li> </ul>	^	+	Add schedule rule definition	schedule rule definition Search schedules rule defir Q 🗙							
Search filters			Code	Description 1	Class		Attribute	Active			
Dashboards			Renewalofthemaintena	Renewal of the mainte	Purchase o	rder	Signing date				
🕨 🖿 Reports	11		General properties	bedule rule				◎ ∥ ౮ Ӷ ฃ ⊘			
Menus											
🕨 🖿 Custom pages			Code			Description					
🕨 🖿 Custom components			Renewalofthemaintenanc	eservice		Renewal of th	e maintenance service				
DMS			Extended description								
Navigation trees			Renewal of the mainten	ance service							
Groups and permissions	4										
🕨 🖿 Users											
Notifications			Class			Attribute					
Imports/Exports			Purchase order			Signing date					
Task manager			User			Group					
Service bus			demouser			Hardware hel	Hardware helpdesk				
🕶 🖿 Scheduler			Time zone			Schedule rule	e edit mode				
🔄 Rule definitions			Europe/Berlin			Write					
🖋 Settings	н		Active			Create sched	ules also via web service				
🕨 🖿 GIS											
BIM			_								
Localizations	~										
			www	.cmdbuild.org · Info ·	Copyright © 1	ecnoteca srl					

There is the possibility of performing the following operations:

Add a new rule of deadline generation
 Do searches among inserted rules

<ul><li>Force the rule application to the cards already inserted</li><li>Edit the selected rule</li></ul>	⊙ ¢
Display the complete information related to the selected rule	C
Delete the selected rule	匬
Disable the selected rule (i.e. set the status as non-active)	Ø

CMDBuild CMDBuil	d den	าด	📽 SuperUser 👻 🗘	⊞	
Navigation		Schedule - Renewal of the maintenance service		23	×
Cookap types	^	General properties ^			^
Views					rds
🕨 🖿 Search filters		Code *	Description *	~	
🕨 🖿 Dashboards		Renewalofthemaintenanceservice	Renewal of the maintenance service		
🕨 🖿 Reports		Extended description			
Menus		Renewal of the maintenance service			
Custom pages					
Custom components		Class *	Attribute *		
DMS		Purchase order 💌 🗴	Signing date 🗸		
Navigation trees		User	Group		
Groups and permissions	•	demouser 💌 🗙 Q	Hardware helpdesk 🔻 🗙 Q	Ł	
Users		Time zone	Schedule rule edit mode		
Notifications		Europe/Berlin 💌 🗙	Write	,	
Imports/Exports		Active	Create schedules also via web service		
🕨 🖿 Task manager					
Service bus					
🕶 🖿 Scheduler		Schedule rule ^			
🕤 Rule definitions		Catagony	Priority		
🖋 Settings		Default	Default	,	
🕨 🖿 GIS		Schedule edit mode	Action on card delete		
BIM		Write 👻	Keep schedules	,	_
Localizations	~				ř
			Save	Cancel	

Every rule of generation of deadlines needs certain parameters to be compiled (metadata), as described below.

### 26.1.1. General properties

- Code
- Description
- Description
- Class: this class contains Data attributes to be marked as "Expiration"

- · Attribute: this attribute generates the expiration according to defined rules
- User: in case it is specified, the expiration visibility will be limited to that user
- Group: in case it is specified, the expiration visibility will be limited to that group
- Time zone: it specifies the time zone considered in the generation and notification of the expiration(s)
- Schedule rule edit mode, for operators that insert into the system data cards that generate expirations:
  - Hidden: the expiration will be generated without the operator's intervention
  - Read: the operator can only view some parameters that generate the expiration
  - Write: the operator can also edit some parameters that generate the expiration
- Active: states if the rule is active

General properties ^

· Creates deadlines also via webservice: automatically executed also operating via webservice

Code * Renewalofthemaintenanceservice			Description *					
Extended description							i	
Renewal of the maintenance service								
Class *				Attribute *				
Purchase order		•	×	Signing date			•	
User				Group				
demouser	•	×	Q	Hardware helpdesk	•	×	Q	
Time zone				Schedule rule edit mode				
Europe/Berlin		•	×	Write			•	
Active				Create schedules also via web service				

## 26.1.2. Schedule rule

- Category: the expiration is classified with the specified category (the values can be customized through a specific lookup list)
- Priority: the expiration is classified with the specified priority (the values can be customized through a specific lookup list)
- Schedule edit mode, during the insertion / change of a data card that generated expirations:
  - Hidden: the expirations during the generation will not be shown to the operator

- Read: the expirations during the generation will be shown to the operation in only-read mode
- Write: the expirations during the generation can be changed by the operator
- Action on card delete:
  - Unlink: it unlinks the expiration from the linked data card
  - Delete: it deletes the expiration
- Condition: the expiration will be generated only in case the specified condition is verified
- Schedule time: you can specify a time in the expiration date
- Frequency, which takes the following values:
  - Once
  - Daily
  - Weekly
  - Monthly
  - Yearly
- Frequency multiplier: it allows you to specify a frequency multiplier, for example, every three months, every two years, etc.
- End type, which takes the following values:
  - Never
  - End date, in case it appears, you have to valorize the "End date" field
  - Number of events, in case it appears, you have to valorize the "Number of occurrences" field
- Daily before deadline, which can be specified in:
  - Years
  - Months
  - Days
- Daily before deadline value: number of days / months / years of the postponement
- Max active schedules: it allows you to limit the number of schedules which are open at the same time in the scheduling (once an expiration is closed, the next one will be automatically generated)
- Notification template: email template to use for notification
- Days advance notification: it allows you to specify the expiration notification (it appears only after having chosen the notification template)
- Attached notification report: it allows to attach a report to the notification mail
- Format: report format (PDF or CSV)
- Report parameters: defining of the parameters provided by the report

- Schedule rule ^			
Category		Priority	
Default	-	Default	-
Schedule edit mode		Action on card delete	
Write	-	Keep schedules	-
Condition			
Schedule time *			
00:00:00			
Frequency		Frequency multiplier *	
Daily	-	1	-
End type			
Never	•		
Delay first deadline		Delay first deadline value	
Years	•	1	•
Max active schedules *			
1			
Template used for notification			
AM07 - Transfer between user - Email to dest. user	<b>- x</b>		
Days advance notification *			
1	*		
Report attached to notification		Format	
AssetMgt - List	- x		•
Report parameters			
Paramater		Value	
assettype.lookup.CIReportClass			
startdate			
enddate			

# 26.2. Configurations

The function allows to set all configuration parameters necessary to the scheduling file:

- general properties
- list of values
- list of categories
- list of priorities

## 26.2.1. General properties

The following information is required:

· Active: it allows to activate the functionality of the scheduling file

Active			

# 26.2.2. List of values

🗳 CMDBuild demo 🔮 SuperUser 🗸 🆽 🕪											
Navigation	•	Sc	Scheduler - Settings								
🕨 🖿 Lookup types	^	G	eneral properties	Statuses	Categories	Priorities	Manual schedules				
Views		0		Statuses	categories	Thomas	Mandar Schedules				
Search filters		-	Add value Sea	arch in grid		×					
Dashboards			Code		Description		Text color	Active	Parent descript	ion	
🕨 🖿 Reports	10	$\oplus$	canceled		Canceled						
🕨 🖿 Menus			active		Active						
Custom pages			General proper	rties Icon						/ 🖸 🖄 🖉	
Custom components			General proper								
DMS			Code				Descripti	on			
Navigation trees			active				Active				
Groups and permissions			Parent descrip	tion			Text colo	r			
Users	4										
Notifications			Notes								
Imports/Exports											
🕨 🖿 Task manager											
Service bus											
👻 🖿 Scheduler			Active								
🕲 Rule definitions											
🖉 Settings											
🕨 🖿 GIS	н	$\pm$	expired		Expired						
BIM		÷	completed		Completed		-				
Localizations							_	)			
Server management											
System config	~										
				www.cm	dbuild.org ·	Info · C	opyright © Tecnoteca srl				

#### 26. Schedule

CMDBuild CMDBuild	d de	mo		曫 SuperUser 👻	ļ.	≣ 🕩
Navigation	•	Schedu	ıler - Settings			
Lookup types	^	Genera	properties Statucos Categorias Prioritias Manual schedules			
Views		Genera	properties statuses categories mondes manual selectures			
Search filters		+ Add	Search in grid 🗶			
Dashboards		Coc	CalendarEventStatus - Active			2 x
🕨 🖿 Reports	10	🕀 can				
🕨 🖿 Menus		🗏 acti	General properties A			
Custom pages		Ge	Code * Description *			
Custom components			active Active			
DMS		Co	Parent description Text color			
Navigation trees		act			- x	
Groups and permissions		Pa	Notes			
🕨 🖿 Users	•					
Notifications		No				
Imports/Exports						
🕨 🖿 Task manager			Active			
Service bus						
👻 🖿 Scheduler		Ac				
🕲 Rule definitions			lcon ^			
🖉 Settings			Icon type			
🕨 🖿 GIS		⊕ exp	None			
BIM		± con				
Localizations						
Server management						
System config	~					
					Save	Cancel

The management of states of the scheduling table is the same as the one seen in the Lookup lists. Please read the relative chapter for further details.

Since the scheduling file requests predefined states, it is possible to modify the description or colors, but it is impossible to insert new states or edit / disable the one available.

#### 26.2.3. List of categories

The management of categories used by the scheduling table, customizable by your necessities, is the same as the one seen in the Lookup lists. Please read the relative chapter for further details.

### 26.2.4. Priority list

The management of priorities used by the scheduling table, customizable by your necessities, is the same as the one seen in the Lookup lists. Please read the relative chapter for further details.

# 27. GIS

CMDBuild allows you to georeference on geographical maps and on planimetries those cards for which a geographical attribute has been configured.

Geographical attributes can be "point", "open polygonal" and "closed polygonal".

# 27.1. Icons management

This feature allows you to create and update a list of icons that are used to represent markers (see the management of geographical attributes in the menu Classes, paragraph 6.5).

CMDBuild CMDBuild	d de	mo		📽 SuperUser 👻 🔔 🌐 🕩
Navigation	•	Manage icons		
🕨 🖿 Menus	^	+ Add icon Search X		
Custom pages				
Custom components		lcon	Description	
DMS		<b>D</b>	Building.png	e 🕅
Navigation trees		<b></b>	Computer.png	e* 🛍
Groups and permissions			Smartphone.png	e 🖉
Users				
Notifications	10			
Imports/Exports				
🕨 🖿 Task manager				
Service bus				
🕨 🖿 Scheduler	•			
🕶 🖿 GIS				
<b>9</b> Manage icons				
External services				
Q Layers order				
Q Layers menu				
GIS Navigation				
<b>9</b> Thematism				
🞤 Settings				
BIM				
Localizations				
🕨 🖿 Server management				
System config	~			
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There is the possibility of performing the following operations:

Add a new icon • Add icon research the icon in the list Search... Q × Edit the selected icon 



The upload of a new icon and the change of information regarding an old one are done through the following popup window.

CMDBuild CMDBuild demo 📽 Su	perUser 🔻 🗘 🎟 🕩
Navigation 4 Manage icons	
Menus  Add Icon Search  Custom pages Icon Description	
Building.png	<i>i</i> 1
Avigation trees     Edit icon     X	<ul> <li>✓ ⑪</li> <li>✓ ⑪</li> </ul>
Icon       Imports/Exports         Icon         Select an .png file         Description *   Building.png	
Task manager	
The GIS	
Manage icons   External services   Layers order   Layers menu   GIS Navigation   Thematism   Settings	
> In BIM   > In Localizations   > In Server management   > In System config	

The following information is required:

- Icon: file to upload, with PNG extension and 32x32 or 64x64 pixel
- Description: icon description

匬

# 27.2. External services

This feature allows you to activate the external services necessary for the backgrounds useful to represent and georefer the cards.

The external services currently supported are:

- OpenStreetMap
- The GIS GeoServer, usually installed locally, through which you can load vectorial files like Shape (planimetries, etc.) or raster

Navigation •   Menus   Menus   Custom pages   Custom components   DMS   DMS   Service type   OpenStructMap   Mainium zoom   OpenStructMap   Minimum zoom   OpenStructMap   Minimum zoom   OpenStructMap   Manager   Service type   OpenStructMap   Minimum zoom   OpenStructMap   Manager   Service bus   Service bus   Service bus   Service bus   Service bus   Service bus   Values conserver   Cals   Values conserver   Admin user   Admin password   admin   ********   Admin password   admin   ********	CMDBuild CM	1DBuild de	emo		🖀 SuperUser 🤝	Ĵ	⊞	•
▶ Menus   ▶ Custom pages   ▶ Custom components   ▶ DMS   > Custom components   > DMS   > May Service type   OpenStreetMap   6   Groups and permissions   Minimum zoom   Maximum zoom   0   Service type   OpenStreetMap   6   Groups and permissions   Minimum zoom   Maximum zoom   0   Service bus   > Scheduler   ♥ Gis Navigation   ♥ Layers order   ♥ Layers menu   ♥ Gis Navigation   ♥ Themaism   ✓ Settings   > BMM   > Localizations   > System config	Navigation	•	External services					
▶ Custom components       → Map Service ^         ▶ DMS       Service type       Default zoom         > May adjustion trees       > OpenStreetMap       6         > Groups and permissions       > Minimum zoom       Maximum zoom         > Users       > OpenStreetMap       24         > Monifications       > Geoserver ^       -         > Task manager       > Enabled       -         > Scrvice bus        Enabled       -         > Gis Scheduler       V       VIRL       Workspace         > Mange icons       Vistor       -       -         > Lysers order       Admin user       Admin assword       -         > Lysers forder       Admin user       Admin assword       -         > Localizations       -       -       -       -         > Enabled       -       -       -       -         • Lysers order       Admin user       Admin assword       -         • Lysers forder       -       -       -       -         • Localizations       -       -       -       -         • Localizations       -       -       -       -         • Localizations       -       -       -	🕨 🖿 Menus	^				_		<b>A</b> 1
> Lustom components       Imap Service ∧         > DMS       Service type       Default zoom         > May Service type       0         > OpenStreetMap       6         > Groups and permissions       Minimum zoom         > Users       0         > Notifications       0         > Montifications       -         > Task manager       -         > Layser service bus       -         > Service type       Oeserver ∧         - Geoserver ∧       -         * Bay Service bus       -         > Service bus       -         > Manage icons       -         V Manage icons       -         V Manage icons       -         V Manage icons       -         V Layers menu       -         Q Layers menu       -         Q Layers menu       -         Q Layers menu       -         Q Shavigation       -         P Layers menu       -         Q Thematism       -         P BitM       -         P BitM       -         P System config       -	🕨 🖿 Custom pages							
DMS       Service type       Default zoom         Navigation trees       OpenStreetMap       6         Navigation trees       Minimuzoom       Maximuzoom         Navigation trees       O       24         Notifications	🕨 🖿 Custom component	ts	Map Service A					
Navigation trees 0   Navigation trees <td>DMS</td> <td></td> <td>Service type</td> <td>Default zoom</td> <td></td> <td></td> <td></td> <td></td>	DMS		Service type	Default zoom				
Isoroups and permissions Iminum zoom Maximum zoom   Isoroups and permissions 0 24   Isoroups And Anger   Imports/Exports   Imports/Exports <	Navigation trees		OpenStreetMap	6				
Isers 0   Notifications   Imports/Exports   Task manager   Service bus   Scheduler   Scheduler   VIL   Vorkspace   http://ocalhost:12080/geoserver   Admin user   admin   ********   Admin password   admin   ********   Stifs Navigation   Stotigs   Stotigs   Stotigs   Stotigs   Stotigs   Stotigs   Stotigs   Storey management   System config	Groups and permiss	sions	Minimum zoom	Maximum zoom				
Notifications   Imports/Exports   Task manager   Service bus   Scheduler   VR   VRL   http://localhost:12080/geoserver   of Sampa icons   Admin user   Admin user <td< td=""><td>Users</td><td></td><td>0</td><td>24</td><td></td><td></td><td></td><td></td></td<>	Users		0	24				
Imports/Exports Geoserver ^   Task manager   Service bus   Service bus   Scheduler   CIS   Manage icons   Imports/Exports   Manage icons   Admin user   Admin user <td>Notifications</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Notifications							
▶ Task manager       Image is a service bus       Fabled         ▶ Scheduler       Image is a service bus       Image is a service bus       Vorkspace         ● Manage isons       Image isons       Image isons       Image isons       Image isons         ● Atareal services       Image isons       Image isons       Admin user       Admin user         ● Layers order       Image isons       Image isons       Admin user       Admin user         ● Layers menu       Image isons       Image isons       Image isons       Image isons         ● Thematism       Image isons       Image isons       Image isons       Image isons         ● Thematism       Image isons       Image isons       Image isons       Image isons         ● Thematism       Image isons       Image isons       Image isons       Image isons         ● Thematism       Image isons       Image isons       Image isons       Image isons         ● The isons       Image isons       Image isons       Image isons       Image isons         ● The isons       Image isons       Image isons       Image isons       Image isons         ● The isons       Image isons       Image isons       Image isons       Image isons         ● The isons       Image isons <td< td=""><td>Imports/Exports</td><td></td><td>Geoserver ^</td><td></td><td></td><td></td><td></td><td></td></td<>	Imports/Exports		Geoserver ^					
Service bus Enabled   Scheduler Image icons   Manage icons Image icons   Manage icons Manage icons   Manage icons Admin user   Admin user Admin user <td>🕨 🖿 Task manager</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	🕨 🖿 Task manager							
Scheduler VRL Workspace   Manage icons VRL undbuild   External services Admin user Admin password   Layers menu admin *********   GiS Navigation admin *********   Schtings a	Service bus		Enabled					
Image icons	Scheduler		4					
<ul> <li>Manage icons           </li> </ul> <ul> <li>Manage icons             <ul> <li>Manage icons</li> <li>Manage icons</li> <li>Admin user</li> <li>Admin admin</li> <li>Admin admin admi</li></ul></li></ul>	🕶 🖿 GIS			Workspace				
• External services       Admin user       Admin password         • Layers order       admin       ********         • Layers menu       admin       *********         • GIS Navigation       a         • Thematism       a         • Settings       a         • Localizations       a         • Setver management       a         • System config       a	Manage icons		http://localnost:12080/geoserver	cmabulla				
Augers order admin     Augers menu admin     Auge	External servic	es	Admin user	Admin password				
♀ Layers menu ↓   ♀ GIS Navigation ↓   ♀ Thematism ↓   ▶ Settings ↓   ▶ BIM ↓   ▶ Localizations ↓   ▶ Server management ↓   ▶ System config ↓	Layers order		admin	******				
Image: GIS Navigation   Image: GIS Navigati	Layers menu							
♥ Thematism     ↓       ▶ Settings     ↓       ▶ BIM     ↓       ▶ Localizations     ↓       ▶ Server management     ↓       ▶ System config     ✓	GIS Navigation							
Settings   BIM   Localizations   Server management   System config	Thematism							
> b BIM   > b Localizations   > b Server management   > b System config	🖋 Settings							
<ul> <li>Localizations</li> <li>Server management</li> <li>System config</li> </ul>	BIM							
> Im Server management       > Im System config	Localizations							
System config	🕨 🖿 Server managemen	it						
	System config	~						
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There is the possibility of performing the following operations:

• e	edit parameters	(din
-----	-----------------	------

### 27.2.1. Map service

- Service type: currently OpenStreetMap is available
- Default zoom: default zoom level required to display the map

- Minimum zoom: minimum zoom level required to display the map
- Maximum zoom: maximum zoom level required to display the map

Map Service ^			
Service type		Default zoom	
OpenStreetMap	-		6
Minimum zoom		Maximum zoom	
	0		24

#### 27.2.2. Geoserver

- Enabled: it shows whether Geoserver is enabled or not
- URL: Geoserver address
- Workspace: workspace name
- admin username
- admin password

Workspace	
cmdbuild	
Admin password	
•••••	۲
	Workspace cmdbuild Admin password

# 27.3. Layer order

This feature allows you to set layers order, so that they can be shown in the data Management Module.

Please note that CMDBuild manages the layers related to the geographical Attributes (asset locations, polygons, room surface) within the PostgreSQL database using the spacial extension PostGIS.

## 27.3.1. Features

The layers in the list correspond to one of the geographical attributes configured in the classes.

CMDBuild CMDBuil	d de	mo				警 SuperUser 🦷	↓ <b>■ ●</b>
Navigation	•	Layers order					
🕨 🖿 Menus	^	Description	Reference class	Туре	Minimum zoom	Maximum zoom	Default zoom
Custom pages		PositionNotebook	Notebook	point	18	25	18
Custom components		CPX01_TT01_F00N	Floor	shape	18	25	18
DMS		CPX01_TT01_F01N	Floor	shape	18	25	18
Navigation trees		Perimeter	Room	polygon	18	25	18
Groups and permissions		Position	Desktop	point	18	25	18
Users		Position	Notebook	point	18	25	18
Notifications	11	Position	Building	point	6	17	6
Imports/Exports		Shape	Floor	shape	1	25	13
Task manager		Position	InternalEmployee	point	6	17	6
Service bus		1 USICION	internalEmployee	point	Ū	.,	0
🕨 🖿 Scheduler	4						
🕶 🖿 GIS							
Manage icons							
External services							
Layers order							
Layers menu							
GIS Navigation							
Thematism							
🖋 Settings							
BIM							
Localizations							
🕨 🖿 Server management							
🕨 🖿 System config	~						
			www.cmdbuild.org	· Info · Copyright © T	ecnoteca srl		

The layers order can be modified by moving the lines in the grid (drag and drop).

# 27.4. Layers menu

This task allows you to define the menu for the layer consultation configured in CMDBuild.

### 27.4.1. Features

This function allows you to configure a menu that is similar the CMDBuild general one. It is displayed in the Layers tab of the Management Module map.



The configuration modes are the same described for the general menu of the application, with the possibility of creating folders and positioning the available layers through the "drag & drop" function.

# 27.5. GIS navigation tree

The "Map" page in the Management Module requires the configuration of a GIS navigation tree that leads the operator in the navigation among the various types of cards georefered on the territory and/or on plans.

This means that the structure of the hierarchical menu has to be defined. This menu will present the list of elements of each level (for example, by expanding the card of a floor, you will see the cards related to the rooms and inside these the cards related to the assets) and you have the possibility of highlighting them on the map.

## 27.5.1. Features

The function allows you to configure the hierarchical navigation menu among the items georefered on the map.

CMDBuild CMDBuild der	mo				警 SuperUser 👻	Û	▦	۲	
Navigation •	GIS Naviga	tion							
Menus							<b>(1</b> )	ŵ	0
Custom pages									^
Custom components	General pr	operties ^							
DMS	Source class								
Navigation trees	Building								
Groups and permissions	Active								
🕨 🖿 Users									
Notifications									
Imports/Exports	- Tree ^								-
🕨 🖿 Task manager	Multiloval	Domain 1	Class	Filtor COI	Label				
Service bus				Thiter CQL	Label			-	-
Scheduler			Building		Building			2	
🗝 🖿 GIS								2	
Manage icons		Configu						<b>Q</b>	
Sexternal services		■ 🖌 🗁 has [Floor]	Floor		Floor			<b>Q</b>	
Layers order		<ul> <li>belongs to [Building]</li> </ul>						<b>Q</b>	
Layers menu		■ □ belongs to [Complex]						•	
<b>GIS Navigation</b>		• 📋 🗀 contains equipments [Con						<b>Q</b>	
• Thematism		a is the second	Room		Room			<b>Q</b>	
🖋 Settings		🕒 🔲 🗁 belongs to [Building]						0	
BIM		🕒 🔲 🗅 belongs to [Complex]						÷	
Localizations		🖪 🔲 🗀 belongs to [Floor]						¢	
Server management		🗖 🗹 🗁 contains [Configuratio	Configuration item		CI			\$	
System config		🖪 🔲 🗀 affected by [IT Proc						\$	~
- •		www.cmdbuild.org · Info · Co	pyright © Tecnoteca srl						

#### There is the possibility of performing the following operations:

• edit the GIS navigation tree

delete the GIS navigation tree	匬
disable the GIS navigation tree (i.e. set the status as non-active)	0

CMDBuild CMDBuild	demo				👺 SuperUser 🤝	↓ Ⅲ	•
Navigation •	GIS Navig	ation					
Menus ·	▲ General	properties A					^
🕨 🖿 Custom pages	General	biopercies ··					
Custom components	Source clas	s					
DMS	Building	~	×				
Navigation trees	Active						
Groups and permissions							
Users							
Notifications	- Tree ^						
Imports/Exports	Multilevel	Domain 1	Class	Filter CQL	Label		
🕨 🖿 Task manager		🖨 🐨 🗁 Building	Building		Building		0
Service bus		🗈 🗋 🗀 belongs to [Complex]					0
🕨 🖿 Scheduler	•	🗈 🗋 🗀 contains equipments [Configu					0
🕶 🖿 GIS		🗖 🕑 🗁 has [Floor]	Floor		Floor		0
Manage icons		🕒 🗋 🗀 belongs to [Building]					0
External services		🕒 🗋 🗀 belongs to [Complex]					0
Layers order		🕒 🗋 🗀 contains equipments [Con					0
Layers menu		🗖 🕑 🗁 has [Room]	Room		Room		0
<b>GIS Navigation</b>		🗈 🗋 🗀 belongs to [Building]					0
Thematism		🗈 🗋 🗀 belongs to [Complex]					0
🖋 Settings		🗈 🗋 🗀 belongs to [Floor]					0
DIM BIM		🛢 🗹 🗁 contains [Configuratio	Configuration item		CI		•
Localizations		🕒 🗋 🗂 affected by [IT Proc					0
Server management							<u> </u>
System config	~					Save	Cancel
		www.cmdbuild.org · Info · Co	pyright © Tecnoteca srl				

# 27.5.2. General properties

- Original class: root of the tree (in general "Building" or "Complex")
- Active: the GIS navigation tree is active and can be used

-

- Tree ^

#### 27.5.3. Navigation tree

Starting from the root class 1:N the class tree is displayed and for each class the following are required:

- Multilevel: it is useful to identify the "vertical development" class, which is the one capable of overlapping and needs to be displayed mutually exclusive (usually related to the "Floor" class).
- Class: it allows you to select the classes of the GIS navigation tree you want to configure
- · CQL filter: it allows you to set filters to exclude some cards of the selected classes
- Alias to be used as labels

Providing the necessary domains, a typical navigation tree is the one made up of the following classes: Building => Floor => Room => Asset.

Multilevel	Domain 🕇	Class	Filter CQL	Label	
	🛢 🗹 🗁 Building	Building		Building	ф
	🖪 🔲 🗀 belongs to [Complex]				ф.
	🗈 🔲 🗀 contains equipments [Configu				ф
	🗖 🗹 🗁 has [Floor]	Floor		Floor	ф.
	🗈 🔲 🗀 belongs to [Building]				ф.
	🗈 🔲 🗀 belongs to [Complex]				÷.
	🕒 🗋 🗀 contains equipments [Con				Ф
	🗖 🗹 🗁 has [Room]	Room		Room	Ф
	🗈 🗋 🗀 belongs to [Building]				Ф
	🛨 🔲 🗅 belongs to [Complex]				Ф
	🕒 🗋 🗁 belongs to [Floor]				Q.
	🗖 🕑 🗁 contains [Configuratio	Configuration item		CI	Ф
	🗄 🔲 🗀 affected by [IT Proc				-0-

Through the icon in the column on the right (cogwheel), enabled only for superclasses, you can filter the subclasses you want to include in the menu and manage a custom label from this function.

3			_	
	CMDBuild demo	JuperUser 🤝 🛴	■ •	
Navigation	▲ GIS Navigation			
Menus	View mode	×		^
🕨 🖿 Custom pag	General properties A	^		
Custom con				
DMS	View mode			
Navigation t	Superclass 💌			
Groups and	Filter superslasses A			
Users	Filter superclasses A			
Notification:	Class			
Imports/Exp	🗖 🗁 Configuration item			
🕨 🖿 Task manag	🔲 🗅 Grid - Asset	- 18		
Service bus	🖬 🗋 🗁 Hardware			
Scheduler	🗖 🔲 🗁 Client hardware		÷	
🕶 🖿 GIS	🗖 🔲 🗁 Client peripheral			
💡 Manage	D D Monitor			
💡 External	Printer			
Layers o	🗖 🔲 🗁 Computer			
Layers n	Desktop			
🖗 GIS Nav	D D Mobile			
💡 Themati	Notebook			
🖋 Settings	Phone hardware			
BIM	Paskton device		¢	
Localization		ave Cancel		
Server mana	agement no not in the transfer	- Court	Connel	í
System confi	ig 🗸	Save	Cancel	
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# 27.6. Thematic maps

From the GIS interface of the data Management Module you can configure thematic maps on displayed data, which highlight the output of analysis functions on the visible entities with various colors or different symbols (e.g. the rooms of a plan can be colored according to their intended use, computers can be shown according to the number of breakdowns, etc.).

Thematic maps can be also saved by their creator, remaining available in the following accesses.

## 27.6.1. Features

This function allows the administrator to view the thematic maps configured by some users and make them visible to everybody.

CMDBuild CMDBuil	ld de	emo			SuperUser 🥆 🔔 🌐 🗭
Navigation	4	Thematisms			
🕨 🖿 Menus	^	Search thematisms	×		
Custom pages					
Custom components				1	<b>A</b>
DMS		Description	User	Class	Global
Navigation trees		Desktop by state		Desktop	V
Groups and permissions					
Users					
Notifications	10				
Imports/Exports					
🕨 🖿 Task manager					
Service bus					
🕨 🖿 Scheduler		4			
🕶 🖿 GIS					
Manage icons					
External services					
Layers order					
Layers menu					
GIS Navigation					
<b>V</b> Thematism					
🖋 Settings					
BIM					
Localizations					
🕨 🖿 Server management					
🕨 🖿 System config	~				Save Cancel
		www.cm	dbuild.org · Info · Copyright © 1	Tecnoteca srl	

For a complete description of the configuration mode, please see the related section of the User Manual.

# 27.7. Configurations

This function allows you to set some configuration parameters of 2D georeference functions available in the CMDBuild system, both on maps and on vector maps.

🗳 CMDBuild CMDBuild de	mo	嶜 SuperUser 🔻 🔔 🖽 🕩
Navigation •	GIS - Settings	
Menus		
🕨 🖿 Custom pages		
Eustom components	Generals ^	
DMS	Active	
Navigation trees		
Groups and permissions	Initial latitude Initial longitude	
🕨 🖿 Users	43.3 12	
Notifications	Initial zoom	
Imports/Exports	6	
🕨 🖿 Task manager		
Service bus		
> 🖿 Scheduler		
🕶 🖿 GIS		
Manage icons		
External services		
A Layers order		
Layers menu		
GIS Navigation		
<b>Q</b> Thematism		
🖋 Settings		
DIM BIM		
Localizations		
🕨 🖿 Server management		
System config		Save Cancel
	www.cmdbuild.org · Info · Copyright © Tecnoteca srl	

# 27.7.1. General properties

- Active: it allows you to activate 2D georeference features
- · Initial latitude: it allows you yo specify the map latitude at startup
- Initial longitude: it allows you yo specify the map longitude at startup
- · Initial zoom level: it allows you to specify the zoom level at startup

Initial longitude:
0

# 28. BIM

CMDBuild supports the BIM paradigm (Building Information Modeling), which is a conceptual solution with the aim of managing the building design procedure, from the conception of the building to its construction, use and maintenance, and finally to its demolition, if any.

CMDBuild is able to sync automatically the chosen information from a BIM repository by using the open standard format IFC (Industry Foundation Classes) and display in a realistic way interiors and assets thanks to a 3D interactive viewer, integrated in the user interface.

CMDBuild uses as embedded repository the open source tool BiMserver.

# 28.1. Projects

This function allows to manage BIM projects managed in CMDBuild. Every project is usually associated to a building or to a built up area.

A BIM project coincides to a IFC file in various versions.

CMDBuild CMDBuild der	mo		i SuperUser 👻 🏳 🌐 🕩
Navigation •	Projects		
Lookup types	+ Add project Search in grid	×	
Views	Searchingham		
Search filters	Name	Description Last check	-in Active
Dashboards	🗄 building1	AC	
Reports	🗄 building2	LMT	
Menus	🗄 building3	TT01	
Custom pages			
Custom components			
DMS			
Navigation trees			
Groups and permissions			
Users			
Notifications			
Imports/Exports			
🕨 🖿 Task manager			
Service bus			
> 🖿 Scheduler			
🕨 🖿 GIS			
➡ BIM			
Projects			
🖉 Settings			
Localizations			
Server management			
System config			
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There is the possibility of performing the following operations:

create a new BIM project	+ Add project		
<ul> <li>do searches on configured projects</li> </ul>	Search Q 🗙		
edit the selected project	<b>A</b>		
display the complete information related to the selected project	C		
download the selected project	*		
clone the selected project	G		
delete the selected project	ŵ		
disable the selected project (i.e. set the status as non-active)	0		
Convert IFC format to XKT (supported by Xeokit)	⇒		

CMDBuild CMDBuil	uild demo	i SuperUser 🤝 💭 🏢 🕩
Navigation	Projects	
🕨 🖿 Lookup types	A Add project Conrels in grid	
Views	That project Search in grid	
Search filters	Nam Project - AC	ي <sup>م</sup> 🗙
Dashboards	build General properties ^	
🕨 🖿 Reports	Ger	
🕨 🖿 Menus	Name * Description *	
🕨 🖿 Custom pages		
Custom components	Parent project Last check-in	
DMS	Par	
Navigation trees	Active	
Groups and permissions	Act	
Users		
Notifications	Associated card A	
Imports/Exports	build Associated class     Associated card	
🕨 🖿 Task manager	🗄 build Building 💌 🗱 AC - Aon Center	- x Q
Service bus	IFC File	
Scheduler	Browse	
🕨 🖿 GIS		
- BIM		
Projects		
🖋 Settings		
Localizations		
🕨 🖿 Server management		
System config	v	
		Save Cancel

Each BIM project needs some parameters to be compiled (metadata), as mentioned.

#### 28.1.1. General properties

The following information is required:

- Name: project name
- Description: description of the project
- Parent project: it allows you to split a BIM model in various elements, having a parent model and several specific submodels for different plants, which can be automatically charged.
- Last check-in: last check-in date
- Active: the project is active and can be used

— General properties ^ ——		
Name *		Description *
building1		AC
Parent project		Last check-in
	× X	
Active		

#### 28.1.2. Linked cards

- Related class: it requires to select the CMDBuild class for the project connection; it is usually "Building" or "Complex of buildings"
- Related card: it requires to select the CMDBuild class selected in the previous field; it is usually a building or a complex of buildings
- IFC file: it requires the uploading of the IFC file to in order to file in into BiMserver

— Associated card $\land$ ————					
Associated class		Associated card			
Building	- X	AC - Aon Center	•	×	Q
IFC File					
	Browse				
# 28.2. Configurations

This function allows you to set some configuration parameters of 3D georeference functions available in the CMDBuild system, related to the interface with BIM systems (Building Information Modeling) through IFC file (Industry Foundation Classes).

🚰 CMDBuild demo 👹 SuperUser 🗸 🌐						
Navigation •	BIM - Settings					
Lookup types						
Views						
Search filters	Generals ^					
Dashboards	Active					
Reports						
🕨 🖿 Menus	Viewer					
Custom pages	xeokit 👻					
Custom components						
DMS	xeokit configurations ^					
Navigation trees	XKT to IFC conversion timeout					
Groups and permissions	300					
Users						
Notifications	BIM server configurations $\land$					
Imports/Exports	A struct					
Task manager	Active					
Service bus						
Scheduler	URL					
🕨 🖿 GIS	http://iocainost:11080/bimserver					
➡ BIM	Username	Password				
Projects	admin@bimserver.com	•••••				
🖉 Settings						
Localizations						
Server management						
System config		Save Cancel				
	www.cmdbuild.org · Info · Copyright©Te	cnoteca srl				

## 28.2.1. General properties

The following information is required:

- Active: it allows you to activate 3D georeference features
- Viewer: BIMSurfer or xeokit

28. BIM

# 28.2.2. Xeokit configuration

The following information is required:

XKT to IFC conversion timeout: maximal timeout for conversions from XTK format (native of xeokit) to IFC

— xeokit configurations ^ —

XKT to IFC conversion timeout					
300					

## 28.2.3. BIMServer configuration

- Active: active BIMServer
- URL: URL of the BIMServer service
- · Username: service user used to access the BiMserver
- · Password: service user's password

BIM server configurations		
Bim server configurations		
Active		
URL		
http://localhost:11080/bimserver		
Username	Password	
admin@bimserver.com		۲

# 29. Localization

In CMDBuild there are two localization typologies:

- a first-level localization, related to the only base CMDBuild interface (menu texts and standard buttons, headers, footers, etc.)
- a second-level localization, related to all application elements (class names, attributes, domains, lookups, menu entries, etc.)

The first-level localization is managed through external system files.

The second-level localization is managed in this Administration Manual, by working on each page where there are elements configured with texts to be localized, or globally through the features described in this chapter.

# 29.1. Configuration

In the configuration page you can select the default language of the CMDBuild default instance, decide to permit or not to choose the language when logging in and select the languages for the current instance, among those with the first-level localization.

🗳 CMDBuild CMDBuild demo 🔮 SuperUser 👻 🗘 🌐 🕩							
Navigation	•	Configuration					
Lookup types	^						
Views							
Search filters		Language configuration A					
Dashboards		Default language *					
🕨 🖿 Reports	11	English		<b>v</b>			
🕨 🖿 Menus		Show language choice					
🕨 🖿 Custom pages							
🕨 🖿 Custom components							
DMS		Enabled languages ^					
Navigation trees		🗌 💻 Bahasa Indonesia	🗌 🔚 Hungarian	🗌 🛻 Slovenski Jezik	🗌 🎦 Монгол хэл		
Groups and permissions		🗌 🛄 Bahasa Melayu	🗹 🚺 Italiano	🗌 💼 Slovenčina	🗌 🚃 Русский		
Users	4	🗌 📕 Dansk	🗌 📩 język polski	🗌 🌄 Srpski	🗌 🌄 Српски		
Notifications		🗹 💻 Deutsch	🗌 🔚 Nederlands	🗌 💌 Tiếng Việt	🗌 💳 Українська		
Imports/Exports		English	Norsk	Türkce	العربية 💻 🗌		
🕨 🖿 Task manager		Español	Persian	Čeština			
Service bus		Erançais	🗌 🧰 Português Brasil	Ελληνικά			
🕨 🖿 Scheduler		🖉 📑 Hanyataki	Português Deutugal				
🕨 🖿 GIS			Portugues Portugal	🗆 🚃 выпарски	□ .●. 현목이		
BIM		Selectable languages ^					
- Localizations		501001001010000000					
Configuration		🗌 <del>ा</del> Deutsch	🗌 🚾 Español	🗌 🚺 Italiano			
Cocalization		English	🗌 🚺 Français				
Server management							
System config	~						
		www.cm	dbuild.org · Info · Copyright	© Tecnoteca srl			

There is the possibility of performing the following operations:

•	enter the edit mode to edit the configuration parameters	<b>A</b>

The parameters to configure the localization are divided in the two sections described as follows.

### 29.1.1. Language configuration

The following information is required:

- Default language: default language for the CMDBuild instance
- Show language selection: it requires the list of languages when logging-in

#### 29.1.2. Enabled languages

Then you can select the languages enabled for the localization, among those with the first-level localization.

Enabled languages ^			
🗌 💻 Bahasa Indonesia	🗌 🚍 Hungarian	🗌 📥 Slovenski Jezik	🗌 🎦 Монгол хэл
🗌 🛄 Bahasa Melayu	🗹 🚺 Italiano	🗌 💼 Slovenčina	🗌 📩 Русский
Dansk	🗌 📩 język polski	🗌 💶 Srpski	🗌 💶 Српски
🗹 🔳 Deutsch	🗌 🚍 Nederlands	🗌 💽 Tiếng Việt	🗌 🔜 Українська
🗹 📑 English	🗌 <del></del> Norsk	🗌 💽 Türkçe	العربية 💻 🗌
🗹 🚾 Español	🗌 🚾 Persian	🗌 ≽ Čeština	🗌 🎦 中文
🗹 🚺 Français	🗌 💽 Português Brasil	🗌 🔚 Ελληνικά	□ ● 日本語
🗌 🚾 Hrvatski	🗌 💽 Português Portugal	🗌 🚃 Български	🗌 💓 한국어

#### 29.1.3. Selectable languages

You can select also the languages available at login in the application.

Selectable languages A						
🗌 📑 Deutsch	🗌 <u> </u> Español	🗌 🚺 Italiano				
English	🗌 🚺 Français					

# 29.2. Localization

The localization interface offers a single intervention point in order to work on every translation:

- Classes: description of classes, description of attribute groups, description of attributes
- Processes: description of processes, description of attribute groups, description of attributes
- Domains: domain description, direct description, inverse description, Master Detail label
- Views: view description
- Search filters: search filter description
- Lookup: lookup list heading description
- Report: report description
- · Dashboard: dashboard description, labels of histogram axis, legend
- · Groups: description of groups of users
- Menu: folder description, description of element inserted into the menu

Each kind of element is managed in a proper TAB of the interface.

From the localization page you can import any further localizations provided by contributors or export your own localizations you want to make available to third parties.

CMDBuild CMDBuild	d de	mo						20	SuperUse	r 🗸 🖡	∎ 🗭	
Navigation	•	Localization										
🕨 🖿 Lookup types	^	🕈 Import 🏒 Exp	ort									
Views												
Search filters		Classes Processes	Domains Views	Search filters	Looku	up Types	Reports	Dashboards	Groups	Menus		
🕨 🖿 Dashboards		Search	×									<b>Call</b>
🕨 🖿 Reports	11	Element †	Turpe 1	Dofault Translat	ion	Dou	tech	English		- Ecoañol		L.
🕨 🖿 Menus			Type T		1011	Deu	tstri	English		<u> </u>		^
Custom pages		AdminDocument	Attribute description	Code								-
🕨 🖿 Custom components		AdminDocument	Attribute description	Description								
DMS		AdminDocument	Attribute description	Document date								
Navigation trees		AdminDocument	Attribute description	Document num	ber							
Groups and permissions		AdminDocument	Description	Administrative D	oc							
Users	4	AMForm	Attribute description	Classes								
Notifications		AMForm	Attribute description	Data function								
Imports/Exports		AMForm	Attribute description	Description								
Task manager		AMForm	Attribute description	Name								
Service bus		AMForm	Description	Asset Managem	ent							
🕨 🖿 Scheduler		AMFormField	Attribute description	Description								
🕨 🖿 GIS		AMFormField	Attribute description	Form								
DIM BIM		AMFormField	Attribute description	Index								
- Localizations		AMFormField	Attribute description	Metadata								
Configuration		AMFormField	Attribute description	Name								
Occalization		AMFormField	Attribute description	Туре								
🕨 🖿 Server management		AMFormField	Description	Asset Managem	ent							
🕨 🖿 System config	~	<			>	<					>	, ~
			www.cmdbuild.org	· Info · Copy	/right ©	Tecnoteca	srl					

There is the possibility of performing the following operations:

•	perform a search	Search Q 🗙
•	import a localization in CSV format	1mport
•	export a localization in one or more languages in CSV format	🛃 Export
•	enter in edit mode to edit the localizations	<b>A</b>

For each language enabled to the localization, there is a column where you can view, add and change the translation of that element.

# 29.2.1. TAB Classes

Elements to translate:

- class description
- attribute description
- description of attributes groups (fieldset)

Here's a screenshot of the user interface of classes localization.

🗳 CMDBuild demo 🖀 SuperUser 🗸 🖽 🗭							r - 🗘 🎟 🕩
Navigation	•	Localization					
🕨 🖿 Lookup types	^	🕈 Import 🏒 Ev	rport				
Views							
Search filters		Classes Processe	es Domains Views	Search filters Look	up Types Reports	Dashboards Groups	Menus
Dashboards		Search	×				
🕨 🖿 Reports	11	Element 1	Type 1	Default Translation	Español	Français	Italiano
🕨 🖿 Menus		Cl	Attribute description	Acceptance date	Lapanor	Trançais	Data collaudo
Custom pages		CI	Attribute description	Assignee			Assegnatario
Custom components		CI	Attribute description	Availability			Tipo disponibilità
DMS		CI	Attribute description	Brand			Marca
Navigation trees		CI	Attribute description	Building			Edificio
Groups and permissions		CI	Attribute description	Code			
🕨 🖿 Users		CI	Attribute description	Company			Azienda
Notifications		CI	Attribute description	Complex			Complesso
Imports/Exports		CI	Attribute description	Delivery date			Data consegna
🕨 🖿 Task manager		CI	Attribute description	Disposal date			Data dismissione
Service bus		CI	Attribute description	Floor			Piano
🕨 🖿 Scheduler		ci	Attribute description	Model			Modello
🕨 🖿 GIS			Attribute description	Order			Ordine d'acquisto
BIM		CI	Attribute description	Order row			Piga ordino
- Localizations		CI	Attribute description	Bart pumber			Riga of diffe
Configuration		C	Attribute description	Part number			Stevee
Occalization		CI	Attribute description	ROOM			Stanza
Server management		<		>	<		>
System config	~						Save Cancel
			www.cmdbuild.org	· Info · Copyright ©	Tecnoteca srl		

The management of other tabs is similar, but the Menu tab is described in the following paragraph.

# 29.2.2. Menu tab

Elements to translate are the names of the single menu entries.

Here's a screenshot of the user interface of menu localization.

CMDBuild CMDBu	ild de	mo							ł	SuperUse	r = 🗘	⊞ 🕩	
Navigation	•	Localiza	tion										
Lookup types	^	Import	t 🛃 Expo	rt									
Views													
Search filters		Classes	Processes	Domains	Views	Search filters	Lookup Types	Reports	Dashboards	Groups	Menus		
🕨 🖿 Dashboards													
🕨 🖿 Reports	- 64	Flement			Defau	It Translation	Esr	pañol	Franca	ais	Italia	no	
🕨 🖿 Menus			fault*		Dende				L_ Hange				^
🕨 🖿 Custom pages			Employees		Emple	Nooc					Borconal	2	
Eustom components					All or	plovoos					Tutti		
DMS				mployoos	Interr						Borconal	interne	
Navigation trees		l l	External er	mployees	Extern						Dersonal	astorno	
Groups and permissions		ſ		apalupita	Organ						Personar	esterno	
> 🖿 Users			Organization	onal units	Organ	lizational units					Unita org	anizzative	
Notifications					Duild	Ions					UDICAZIO	н	
Imports/Exports		l l	Buildings		Buildi	ngs					Edifici		
🕨 🖿 Task manager		l	E Floors		Floors	5					Piani		
Service bus			E Rooms		Room	S					Stanze		
Scheduler			Customers		Custo	mers					Clienti		
🕨 🖿 GIS			Suppliers		Suppl	iers					Acquisti		
BIM		l	Suppliers		Suppl	iers					Fornitori		
Localizations		l	j≣ Supplier ei ⊐	mployees	Suppl	ier employees					Personal	e fornitori	
Configuration			i Purchase o	orders	Purch	ase orders					Ordini ac	quisto	
Subscription			Networks		Netwo	orks					Reti		~
Server management		<	H V/LAND			>	<					)	>
System config											S	ave Canc	cel
				www.cmdb	uild.org	· Info · Co	ovright © Tecnoteca	a srl					

# 29.3. Import

The import feature allows you to import a localization provided by Tecnoteca or other contributors. In the page from where you can import there are the following fields:

- Format: CSV (not-editable)
- Separator: it can be selected among the symbols "," or ";" or "|"
- File

Here's a sample of interface screenshot.

CMDBuild CMDBuild	demo	)								ŝ	SuperUs	er – Д	7 🎟 G	
Navigation	L													
🕨 🖿 Lookup types		, Impo	ort 🛃 Expor	t										
Views				_									1	
Search filters		lasses	Processes	Domains	Views	Search filters	Lookup Types	Reports	Dash	boards	Groups	Menus		
🕨 🖿 Dashboards														<b>_</b>
Reports	Ele	en Im	iport						×	Franca	is	Itali	ano	
🕨 🖿 Menus		R								3				^
Custom pages		Fo	rmat									Dore	opalo	
Custom components			LSV						·			Tutti	onale	
DMS		Se	parator									Dere	on ala interna	
Navigation trees		;							•			Pers	onale interno	
Groups and permissions		CS	V file *									Pers	bhaie esterni	0
🕨 🖿 Users	•							Brows	se			Unit	a organizzativ	ve
Notifications		1										UDIC	azioni 	
Imports/Exports												Editi	21	
🕨 🖿 Task manager												Pian		
Service bus												Stan	ze	
Scheduler												Clier	iti	
▶ 🖿 GIS		1					Impo	ort Ca	ncel			Acqu	listi	
BIM					Suppi	ers						Forn	itori	
- Localizations			Supplier en	nployees	Suppl	ier employees						Pers	onale fornito	iri
Configuration			🖹 Purchase o	rders	Purch	ase orders						Ordi	ni acquisto	
Localization			Networks		Netwo	orks						Reti		
Server management			VLANs		VLAN	5						VLAI	4	
System config	~ <		APNs		APNs	```	<					APN		~ ~
				www.cmdl	ouild.org	· Info · Co	pyright © Tecnoteca	srl						

# 29.4. Export

The export feature allows you to export your own localization that you want to make available to other users.

In the page from where you can export there are the following fields:

- Section: you can choose among All, Classes, Processes, Domains, Views, Search filters, Lookups, Reports, Menu
- Languages: through "check" you can select the languages you want to export (among the enabled ones)
- Format: CSV (not-editable)
- Separator: it can be selected among the symbols "," or ";" or "|"
- Only active: it allows you to export only localizations of active elements

#### Here's a sample of interface screenshot.

Navigation 4 Localization	
Lookup types     Export     X	
Views Section	
> In Search filters     Cla     All     Menus	
Dashboards	Ø
Languages	
Menus	
Custom pages	
Español Service Perso	nale
Tutti	
▶ ■ Navigation trees II Italiano II Perso	nale interno
Groups and permissions	nale esterno
Unità	organizzative
Vbica	zioni
Separator     Edific	
Piani ; Piani	
Stanz	9
Scheduler Client	i
Acqui	sti
Fornit	ori
Perso	nale fornitori
Ordin	i acquisto
Reti	
VLAN	
APNs APNs APNs	~
	>

# **30. Server configuration**

CMDBuild server configuration pages allow you to keep controlled some aspects of processing in progress and active services.

# 30.1. Bus messages

This function allows to display messages exchanged among services through the CMDBuild Service Bus, summarized on the top.

In the grid you can see the list of messages with details.

CMDBuild CMDBuild	ld de	mo					嶜 SuperUser 📼	û 🖩 🕩
Navigation	•	Bus messages						
Reports	^	Draft	Queued	Processing	Processed	Error	Failed	Completed
🕨 🖿 Menus		0	0	0	0	0	0	0
Custom pages		т	т	т	т	т	т	т
Custom components								
DMS		Messageld	Node Id	Queue	Status	Timesta	amp↓ Attac	hments
Navigation trees					I			
Groups and permissions								
Users								
Notifications								
Imports/Exports	4							
🕨 🖿 Task manager								
Service bus								
🕨 🖿 Scheduler								
🕨 🖿 GIS								
BIM								
Localizations								
🕶 🖿 Server management								
Bus messages								
Task run messages								
🖋 System								
🕨 🖿 System config	~							
			www.cmdbuild.or	ra i Info i Con	wright @ Tecnoteca srl			

# 30.2. Messages of running tasks

This function allows to display messages produced by tasks running in the system, summarized on the top.

In the grid you can see the list of messages with details.

CMDBuild CMDBuild de	emo						嶜 SuperUser 👻	4 🖩 🗭
Navigation •	В	us messages						
Reports	Г	Error	Failed	Completed				
🕨 🖿 Menus		7	405	2354				
Custom pages		т	т	т				
Custom components	1							
DMS		Task code	Node Id	Status	Timestamp ↓	Elapsed millis	Errors	Logs
Navigation trees	÷	emailQueueSer		Completed	2021-12-30 16:	322 ms	0	^
Groups and permissions	$\pm$	emailQueueSer		Completed	2021-12-30 16:	415 ms	0	
Users	$\pm$	calendarProces		Completed	2021-12-30 16:	497 ms	0	
Notifications	$\pm$	sessionReposit		Completed	2021-12-30 16:	99 ms	0	
Imports/Exports	•	sessionReposit		Completed	2021-12-30 16:	86 ms	0	2022-12-30T16:
Task manager	$\pm$	emailQueueSer		Completed	2021-12-30 16:	157 ms	0	
Service bus	÷	emailQueueSer		Completed	2021-12-30 15:	114 ms	0	
Scheduler	$\pm$	emailQueueSer		Completed	2021-12-30 15:	208 ms	0	
🕨 🖿 GIS	Đ	sessionReposit		Completed	2021-12-30 15:	355 ms	0	
BIM BIM	$\pm$	emailQueueSer		Completed	2021-12-30 15:	237 ms	0	
Localizations	÷	emailQueueSer		Completed	2021-12-30 15:	749 ms	0	
Server management	÷	calendarProces		Completed	2021-12-30 15:	573 ms	0	
Bus messages	÷	emailQueueSer		Completed	2021-12-30 15:	586 ms	0	
Task run messages	÷	sessionReposit		Completed	2021-12-30 15:	375 ms	0	
system	ŧ	sessionReposit		Completed	2021-12-30 15:	270 ms	0	
System config V	_					2. 5 115	-	~

# 30.3. Server status

It allows to display the server status and run some system operations.

CMDBuild CMDBuil	CMDBuild' CMDBuild demo				¢	▦	۲	
Navigation	•	System						
<ul> <li>Beports</li> <li>Menus</li> <li>Custom pages</li> <li>Custom components</li> <li>DMS</li> <li>Navigation trees</li> <li>Groups and permissions</li> </ul>	Ŷ	System actions  Torop cache System preload  Logs  Keit log configuration	<ul> <li>✓ Unlock all cards</li> <li>Source and the second seco</li></ul>					^
Users     Notifications     Imports/Exports     Task manager     Sonica bus	4	Service BIM Service BIM_ Bimserver client	cmdbuild/9608/w18k © Running © Error				_	
<ul> <li>Control dus</li> <li>Scheduler</li> <li>GIS</li> <li>BIM</li> </ul>	l	Clustering DMS Service DMS_ CMIS client	<ul> <li>Not running</li> <li>Running</li> <li>Running</li> </ul>					
<ul> <li>Localizations</li> <li>Server management</li> <li>Bus messages</li> <li>Task run messages</li> </ul>		DMS_ SharePoint Online Email Queue GIS Service	Not running     Not running     O Not running     O Running					
<ul> <li>System</li> <li>System config</li> </ul>	~	GIS_ GeoServer client	Error		Sav	e (	Cancel	ľ

## 30.3.1. System actions

It allows you to access some buttons in order to perform service functions:

- Drop cache: used to clear CMDBuild cache; useful when elements of the PostgreSQL database are modified outside the application (LookUp rows, database views, system functions, etc.) and you don't want to restart Tomcat to refresh
- System preload: it can be used to load the cache information after a cancellation
- Unlock all cards: used to unlock the locked cards and processes. This is useful to anticipate the lock release

System actions			
前 Drop cache	🕄 System preload	<b>1</b> Unlock all cards	

## 30.3.2. Log management

It allows you to perform the following operations on log files:

- Edit log configurations: allows to view and edit the file log configurations
- View log: allows to view CMDBuild log file
- Download log: allows to download several log files used by CMDBuild

Logs	
it log configuration	📰 View logs 🕹 Download logs

The button "Edit log configurations" opens the following popup window:

CMDBuild	CMDBuild demo			i SuperUser	¢	⊞	•	
Navigation	▲ System							
Views	Edit log configuration			×				
🕨 🖿 Search filter	Log category	Content	Value					^
Dashboards	org.cmdbuild		Info					
Reports	org.cmdbuild.auth	authentication, users, roles	Default					
Menus	org.cmdbuild.bim	bim	Default					
Custom pag	org.cmdbuild.cluster	cluster	Default					
Custom con	org.cmdbuild.dao	database	Default					
Navigation t	org.cmdbuild.dms	dms (alfresco, etc)	Default					
Groups and	org.cmdbuild.easytemplate	template processing (email template, etc)	Default					
• 🖿 Users	org.cmdbuild.email	email	Default					
Notification:	org.cmdbuild.gis	gis	Default					
Imports/Exp	org.cmdbuild.jobs	scheduler (user jobs)	Default					
🕨 🖿 Task manag	org.cmdbuild.report	report	Default					
Service bus	org.cmdbuild.scheduler	scheduler (core)	Default					
Scheduler	org.cmdbuild.sql	SPECIAL: sql trace	Info					
B GIS	org.cmdbuild.sql_ddl	SPECIAL: ddl trace	Info					
BIM	org.cmdbuild.webapp	web filters, security	Default					
Localization	org.cmdbuild.workflow	workflow	Default					
💌 🖿 Server mana	Add custom config							
📰 Bus mes								
Task rur				Save Cancel				~
🔑 System	GIS GeoServer client	C Runni	ng		Sav	·e	Cance	
System configure	g 🗸							

The button "View log" opens the following popup window:

CMDBuild	CMDBuild demo	📽 SuperUser 🔻		∎ ເ+	
Navigation	✓ System				
Views	/iew logs	×			
🕨 🖿 Search filter					^
Dashboards					
▶ ■ Reports so	cket.session.ok				
Menus					
🕨 🖿 Custom pag					
🕨 🖿 Custom con					
DMS					
Navigation t					
🕨 🖿 Groups and					
<b>Users</b>					
• 🖿 Notification:					
Imports/Exp					
🕨 🖿 Task manag					
Service bus					
Scheduler					
🕨 🖿 GIS					
BIM					
Localization					
👻 🖿 Server mana					
Bus mes					
Task rur					
🖋 System	GIS GeoServer client ORunning				~
🕨 🖿 System config	▼		Save	Cance	
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The button "Download log"opens the following popup window:

CMDBuild	CMDBuild demo		🐮 SuperUser 🔻	¢ •	I (+	
Navigation	✓ System					
Views	Download logs		×			
Search filter	File name	cmdbuild/30260/51ek		1		^
Dashboards     Reports	catalina.out	Download				
Menus	cmdbuild.log	Download				
Custom pag     Custom con	cmdbuild_ddl.log	Download				
DMS	cmdbuild_job.log	Download				
Navigation t	cmdbuild_req.log	Download				
Groups and     Users	cmdbuild_sql.log	Download				
Notification:	cmdbuild_sys.log	Download				
Imports/Exp     Task manag	All files	Download				
Service bus						
Scheduler						
🕨 🖿 GIS						
BIM						
Localization						
💌 🖿 Server mana						
📰 Bus mes						
🔳 Task rur						
🔑 System	GIS GeoServer client	Running				<b>_</b>
System conf	ig 🗸			Save	Cance	el
	www.cmdbuild.org	Info · Copyright © Tecnoteca srl				

# 30.3.3. Service management

It displays the current status of the services used by CMDBuild and allows the interruptions for some of

#### them.

Services		
Service	cmdbuild/9608/w18k	
BIM Service	Running	
BIM_ Bimserver client	S Error	
Clustering	● Not running	
DMS Service	S Running	
DMS_ CMIS client	S Running	
DMS_SharePoint Online	• Not running	
Email Queue	Not running	
GIS Service	S Running	
GIS_ GeoServer client	S Error	
Log Service	S Running	
Multitenant	Not running	
Scheduler Service (core)	S Running	
Scheduler_Jobs	● Not running	

# 31. System configuration

The CMDBuild Administration Module includes some final pages that the administrator can use to set some configuration parameters of the system.

# 31.1. General options

This function allows you to set some general configuration parameters of CMDBuild.

CMDBuild CMDBu	uild der	no			醬 SuperUser 🤝	Û	▦	•
Navigation	•	General options						
🕨 🖿 Dashboards	^							-
🕨 🖿 Reports								^
Menus		Generals ^						
Custom pages		Instance name		Default page				
Custom components		CMDBuild demo		Desktop		-	×	
DMS		Relation Limit		Reference combobox limit				
Navigation trees	- 64	20	-	500			*	
Groups and permissions		Session timeout		AIAX timeout				1
🕨 🖿 Users		3600	\$	60			*	1
Notifications		Inline notes		Inline notes default closed				1
Imports/Exports								
🕨 🖿 Task manager	4							
Service bus		Date format		Time format			~	
🕨 🖿 Scheduler		yyyy-nin-du	^	24-11001 10111140				
F GIS		First day of week						
BIM		Sunday 👻	×					
Localizations		Decimals separator		Thousands separator				
Server management		Period <b>•</b>	×	Comma		-	×	
🕶 🖿 System config		CSV separator		CSV encoding				
🞤 General options		Semicolon	*	UTF-8 (unicode-1-1-utf-8 UTF8)			•	
🞤 Authentication		Preferred Office suite						
🞤 Multitenant		Default	-					
🔊 Workflow		Para - 11		B. 4. 1111		_		~
🞤 Relation chart	~					Save	(	Cancel
		www.cmdbuild.org · Info · Copyrig	ght © <sup>-</sup>	Tecnoteca srl				

Parameters are divided into the two sections described below.

## 31.1.1. General properties

The following information is required in order to be used as default settings (some information can be reset in the user preferences) for the current instance:

- Instance name: the string is displayed up on the left near the application logo
- Starting page: default opening page
- Relation limit: it indicates the maximum number of relations shown separately; if exceeded, the relations are grouped together

- References and lookup combobox limit: it allows you to specify the maximum number of options shown in a combobox; if exceeded, the options are displayed in a popup window with pagination and filters
- Sessions duration: it allows you to specify the maximum inactivity time before the session expires (in seconds)
- AJAX timeout: it allows you to specify the timeout for the requests done from the user interface to the server through REST webservice (in seconds)
- Inline notes: it states that the management tab of notes has to be removed and managed as additional "fieldset" on the main page of each card (unless otherwise indicated on the single classes)
- Closed inline notes: it states that in case the previous options "fieldset" has been selected, it has to appear as closed by default when the page opens
- Date format: among the available ones
- Hour format: among the available ones
- First day of the week
- Decimal separator in the numeric fields: among the available ones (customizable by each user)
- Thousands separator in the numeric fields: among the available ones (customizable by each user)
- CSV separator: ";", "|" or TAB
- CSV encoding: among the available ones
- Used Office software: used in the Export function and in the reports in CSV format for an optimal formatting of dates and numbers, the default one is Microsoft Office (customizable by each user
- Detail window width (%): it allows you to specify in percent the width of the editing window of the data cards of the available amount
- Detail window height (%): it allows you to specify in percent the height of the editing window of the data cards of the available amount
- Popup width (%): it allows you to specify in percent the width of the popup windows of the available amount
- Popup height (%): it allows you to specify in percent the height of the popup windows of the available amount
- Inline card height (%): it allows you to specify in percent the height of the space reserved to the inline display of a card within the grid of a class / process
- Keep FIIter On Updated Card: it allows you to specify if, after you applied a filter that excludes the current data card, the filter is disabled or the current card is hidden

Generals ^				
Instance name		Default page		
CMDBuild demo		Desktop	~	×
Relation Limit		Reference combobox limit		
20	*	500		•
Session timeout		AJAX timeout		
3600	*	60		-
Inline notes		Inline notes default closed		
Date format		Time format		
yyyy-mm-dd	- X	24-hour format	•	×
First day of week				
Sunday	<b>▼ X</b>			
Decimals separator		Thousands separator		
Period	<b>~ X</b>	Comma	•	×
CSV separator		CSV encoding		
Semicolon	-	UTF-8 (unicode-1-1-utf-8 UTF8)		-

Preferred Office suite			
Default	•		
Detail window width (%)		Detail window height (%)	
75	•	95	•
Popup width (%)		Popup height (%)	
80	•	80	•
Inline card height (%)			
80	•		
Keep Filter On Updated Card			

# 31.1.2. Lock management

- Active: it allows you to enable (default) or disabled the lock management of those data cards and processes in edit by another user
- Show the name of the user who locked the card: it allows you to exclude such information (possible privacy needs) from the message shown by the system when asking for the editing of a card reserved for that purpose by another operator
- Lock time-limit: it allows you to specify when the card can be edited again by an operator

Lock management A	
Active:	Shows the name of the user who blocked the card:
Maximum lock time (seconds):	
300	

## **31.1.3.** Massive actions

The following information is required:

- Massive modification default: allows to enable or disable by default the action for all classes (except for specific configurations on some of them)
- Massive delete default: allows to enable or disable by default the action for all classes (except for specific configurations on some of them)
- Massive abort process default: allows to enable or disable by default the action for all classes (except for specific configurations on some of them)

Bulk actions A	
Default for cards bulk edit	Default for cards bulk deletion
Enabled	Enabled 💌
Default for processes bulk abort	
Enabled	·

## 31.1.4. Company logo

The following information is required:

• Logo: it allows you to upload the company logo. It will then appear in the header row of the user interface, after the CMDBuild logo

— Company logo 🛆 ———————————————————————————————————			
Logo			
Select an .png file	Browse		

# 31.1.5. Chat

The following information is required:

• It enables the CMDBuild chat

Chat ^		
Enable chat		

# 31.1.6. Inactive users

- Disable inactive users: allows to set automatically as inactive all the users who didn't connect to the system for a number of months
- Inactivity months: parameter linked to the previous explanation

Inactive users		
Disable inactive users	Months of inactivity	
$\checkmark$	3	

# 31.2. Authentication

## 31.2.1. Login modules

Active login modules are displayed with the related parameter value.

CMDBuild CMDBuild	emo					📽 SuperUser 🤝	∴ ≡	•
Navigation •	Authentication	- Settings						
🕨 🖿 Dashboards	Login modules	Auth modules	Password policy					
🕨 🖿 Reports	Parameter					Value		
🕨 🖿 Menus						Value		
🕨 🖿 Custom pages	Module: default							
Custom components	description					DEFAULT		
DMS	enabled					true		
Navigation trees	hidden					false		
Groups and permissions	icon							
🕨 🖿 Users								
Notifications								
Imports/Exports								
Task manager	•							
Service bus								
🕨 🖿 Scheduler								
🕨 🖿 GIS								
BIM								
Localizations								
Server management								
🕶 🖿 System config								
🖋 General options								
Authentication								
🖋 Multitenant								
🖋 Workflow								
🖋 Relation chart								
		www.cmdb	ouild.org · Info	Copyright © Tec	noteca srl			

# **31.2.2.** Authentication modules

Active authentication modules are displayed.

#### 31. System configuration

살 CMDBuild CMDBuild d	emo	嶜 SuperUser 👻 🏳 🌐 🕩
Navigation •	Authentication - Settings	
Dashboards	Login modules Auth modules Password policy	
Reports	Module 1	
🕨 🖿 Menus		
Custom pages		
Eustom components	Default	
DMS	File	
Navigation trees	RSA	
Groups and permissions	Disabled	
Users	Custom login	
Notifications	Header	
Imports/Exports	LDAP	
Task manager	4	
Service bus		
🕨 🖿 Scheduler		
🕨 🖿 GIS		
▶ 🖿 BIM		
Localizations		
🕨 🖿 Server management		
🕶 🖿 System config		
🖋 General options		
🖟 Authentication		
🖉 Multitenant		
🖉 Workflow		
🖋 Relation chart 🗸		
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# 31.2.3. Password policy

This function allows you to set the criteria used by users to choose their password, according to the company's security policies.

#### 31. System configuration

💒 CMDBuild 🔹 CMDBuild demo 警 SuperUser 👻 △ Ⅲ ☞ Navigation Dashboards Login modules Auth modules Password policy Reports 🕨 🖿 Menus Generals ^ Custom pages Active Custom components  $\mathbf{\nabla}$ DMS Navigation trees Different from username Groups and permissions Users Different from previous password Number of previous passwords that cannot be reused Notifications 3 Imports/Exports Minimum length 🕨 🖿 Task manager 6 Service bus 🕨 🖿 Scheduler Require at least one lowercase character Require at least one uppercase character GIS 🕨 🖿 BIM Require at least one digit Localizations 🕨 🖿 Server management Maximum number of days between password change Days before a user is notified about expiration - System config 365 🖋 General options Max login attempts 🞤 Authentication Max login attempts window (seconds) 5 60 🞤 Multitenant 🞤 Workflow Default for Change password at first login ✤ Relation chart www.cmdbuild.org · Info · Copyright © Tecnoteca srl

# 31.2.4. General properties

- Active: it allows you to activate the rules for password choice
- Different from username: it prevents you from choosing a password which is identical to the username
- Different from previous password: it prevents you from choosing a new password which is identical to the previous one(s). The number of old passwords is shown below
- Number of previous passwords that cannot be reused
- Minimum length: minimum amount of characters
- Require at least one lowercase character
- Require at least one uppercase character
- Require at least one digit
- Minimum number of days between password change
- Days before a user is notified about expiration
- Maximum access attempts: after the maximum number of failed logins the user is blocked for 10 minutes
- · Time window of maximum access attempts: related to the previous parameter

Generals ^			
Active			
Different from username			
Different from previous password		Number of previous passwords that cannot be reused	
		3	-
Minimum length			
6	-		
Require at least one lowercase character		Require at least one uppercase character	
Require at least one digit			
Maximum number of days between password change		Days before a user is notified about expiration	
365	-	7	-
Max login attempts		Max login attempts window (seconds)	
5	-	60	-
Default for Change password at first login			

First access password change default: you can assign the first access password change as mandatory

# 31.2.5. Password management

The following information is required:

• Allow password change: enabled by default, it allows the users to modify their passwords on CMDBuild (usually this is not allowed in case of authentication on external systems)



# 31.3. Multitenant

This function allows you to set some configuration parameters of the CMDBuild multitenant system.

	Build de	emo	SuperUser 🥆 🔔 🎟	•
Navigation	•	Multitenant		
Dashboards	^			
🕨 🖿 Reports		Generals ^		
🕨 🖿 Menus		Active:		
🕨 🖿 Custom pages		$\checkmark$		
Eustom components		Configuration mode:		
DMS		Function		
Navigation trees	- 10	Class:		
Groups and permissio	ns	Tenant		
Users				
Notifications		Function:		
Imports/Exports		_cm3_multitenant_get_tenants_for_user		
🕨 🖿 Task manager				
Service bus				
🕨 🖿 Scheduler				
🕨 🖿 GIS				
BIM				
Localizations				
🕨 🖿 Server management				
🕶 🖿 System config				
🔏 General options				
🔏 Authentication				
🖋 Multitenant				
🖋 Workflow				
🖋 Relation chart	~			
		www.cmdbuild.org · Info · Copyright © Tecnoteca srl		

# 31.3.1. General properties

- Active: it allows you to activate the multitenant mode in CMDBuild (see below)
- Configuration modes:
  - Class: the cards of an application class are used as a list of tenants (Company, Site, Organizational Unit, etc.)
  - Function: the values returned by a PostgreSQL database function are used as tenant list
- Class: it allows you to select the tenant root class, in case you choose the first option in the previous parameter
- Function: it allows you to select the root database function of tenants, in case you choose the second option in the previous parameter

— Generals ^	
Active:	
Configuration mode:	
Function	
Class:	
Tenant	
Function:	
_cm3_multitenant_get_tenants_for_user	

#### Important:

The multitenant configuration can be activated and set only once.

Since each card is marked with the proprietary tenant, to edit the configuration of the multitenant management implicates that you should work on all rows of all CMDBuild tables, and this cannot be done automatically from the user interface of the Administration Module.

Therefore it is important to configure only in case you are sure that you have identified the correct configuration criteria.

#### Example:

Here's a sample of configuration of a PostgreSQL function, which can be used in the configuration of the Multitenant.

#### How to configure

This is an example of \_cm3\_multitenant\_get function; it takes a single bigint param, which can be:

- \* -1 : in this case the function should return all available tenant ids;
- \* any other value : in this case the function should return all available tenants for supplied user id param;

#### CREATE

```
OR REPLACE FUNCTION _cm3_multitenant_get (_user_id bigint) RETURNS SETOF bigint AS $$
BEGIN
IF _user_id = - 1
THEN
RETURN QUERY
SELECT
"Tenant"."Id"
FROM
"Tenant"
WHERE
"Tenant"."Status" = 'A';
ELSE
RETURN QUERY
```

SELECT "Tenant"."Id" FROM "Tenant" JOIN "Map\_UserTenant" ON "Tenant"."Id" = "Map\_UserTenant"."IdObj2" WHERE "Map\_UserTenant"."IdObj1" = \_user\_id AND "Tenant"."Status" = 'A' AND "Map\_UserTenant"."Status" = 'A'; END IF; END \$\$ LANGUAGE PLPGSQL;

# 31.4. Workflow

This function allows you to set some configuration parameters of the CMDBuild workflow engine.

살 CMDBuild CMDBuild	d de	mo		🐮 SuperUser 🔻	↓ F	Ⅲ	•
Navigation	•	Workflow					
🕨 🖿 Dashboards	^						
🕨 🖿 Reports							
🕨 🖿 Menus		Generals ^					
🕨 🖿 Custom pages		Active					
Custom components							
DMS		Manage attachments on closed activity					
Navigation trees	11						
Groups and permissions		User can disable	Hide "Save" button				
Users							
Notifications		Default job username					
Imports/Exports		workflow					
Task manager	4						
Service bus							
Scheduler							
🕨 🖿 GIS							
BIM							
Localizations							
Server management							
🕶 🖿 System config							
🞤 General options							
🔑 Authentication							
🞤 Multitenant							
🖋 Workflow							
🖋 Relation chart	~				Save	C	ancel
		www.cmdbuild.org : Info : Copyright @ T	ecnoteca srl				

The required parameters are as follows:

## 31.4.1. General properties

- Active: it allows you to activate the CMDBuild workflow engine
- Enable 'Add attachment' when the activities are closed: it allows you to attach documents to closed processes
- Stoppable by user: if enabled, it makes available an additional button that interrupts the process (independently of its status)
- Hide "Save" button: you do not see the button to save the current status of the process before proceeding to the following status
- Default job username: default setting used in the Tasks where not defined. It is related to the username to be used to start the workflow (from which permissions derive, according to the predefined group)

---- Generals ^ -----

Active

Manage attachments on closed activity

User can disable

Hide "Save" button

Default job username

workflow

# 31.5. Relation graph

The page contains the relation graph settings.

CMDBuild CMDBuild der	no	曫 SuperUser 🔻 🔔 🌐 🕩
Navigation •	Relation chart	
Dashboards		
Reports		
Menus	Generals A	
Custom pages	Active	
Eustom components		
DMS	Enable node tooltip	
Navigation trees		
Groups and permissions	Fill color Clustering three	shold
🕨 🖿 Users	#3D85C6 💌 🗶 100	\$
Notifications		
Imports/Exports	Base level Sprite dimensio	n
Task manager	1 60	*
Service bus		
Scheduler		
🕨 🖿 GIS		
BIM		
Localizations		
Server management		
🕶 🖿 System config		
🖋 General options		
🔑 Authentication		
差 Multitenant		
差 Workflow		
🎤 Relation chart 🗸 🗸		Save Cancel
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The required parameters are as follows:

## 31.5.1. General properties

- Active: allows to enable or disable the use of the graph
- Enable tooltip nodes
- · Fill-in colour: it allows to set a personalized color for the graph arcs
- "Threshold for clustering nodes" the maximum number of distinct nodes which can be shown in relation to another node (beside this limit, they are shown as a single different node)
- "Default level" the default number of levels automatically expanded
- Sprite dimensions: allows to state the dimension of the icons representing different kinds of nodes in the chart

Generals ^			
Active			
Enable node tooltip 🕑			
Fill color		Clustoring threshold	
Fill color #3D85C6	- X	Clustering threshold	\$
Fill color #3D85C6	- x	Clustering threshold	*
Fill color #3D85C6 Base level	× X	Clustering threshold 100 Sprite dimension	*

# 32. 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.

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

See also: Card

#### WORKFLOW STEP

Activity: workflow step.

An activity can be an interaction with the operator (interactive) or a script that processes operations via API (automatic).

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 (for example in "supplier" class the attributes can be: name, address, phone number, etc.).

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

In the database, every attribute is related to a column in the table which implements the associated class and corresponds, in the Data Management Module, to a data entry field of the specific card for the class management.

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).

CMDBuild includes a connector to sync some CI information (technical or maintenance records) and an interactive viewer for the 3D model of the building represented by the IFC file.

See also: CI, GIS

### CI

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

In CMDBuild, the term is applied to a generic context of Asset Management extending the concept usually used in the management of IT infrastructure.

CI examples include: server, workstation, software, plant, electric panel, fire extinguisher, furniture,

etc.

See also: Configuration, ITIL

# 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 company, a building, an asset, a service, etc.

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

A class is represented in the database with a table automatically generated when defining the class and corresponds - in the Data Management Module - to a card for the consultation and update of the cards expected in the model.

See also: Card, Attribute

## CMDB

ITIL best practice (Information Technology Infrastructure Library), which has become a "standard de facto" and a non-proprietary system for services management, has introduced the term CMDB referred to the Configuration Item database.

CMDBuild extends the concept of CMDB applying it to a generic Asset Management context.

See also: Database, ITIL

## CONFIGURATION

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

Even if it is known as one of the main processes within the ITIL Best Practice, it is used in CMDBuild for generic contexts of Asset Management.

See also: CI, ITIL

## DASHBOARD

In CMDBuild, a dashboard corresponds to a webpage including one or more different graphic representations, in this way you can immediately hold in evidence some key parameters (KPI) related to management aspects of the Asset Management 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.

The Asset Management database, implemented on the basis of the CMDBuild logics and philosophy, is also indicated as CMDB (Configuration Management Data Base).

#### 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, or configured by the Administrator and made available by operators.

See also: Class, View

#### GIS

A GIS is a system able to produce, manage and analyze 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 (transmission lines) and polygons (floors, rooms, etc.).

See also: BIM

#### **GUI FRAMEWORK**

It is a framework provided by CMDBuild to simplify the implementation of custom user interfaces and to grant a simplified access to non-technical users. They can be issued onto any webportals and can be used with CMDBuild through the standard REST webservice.

The CMDBuild GUI Framework is based on javascript JQuery libraries.

See also: Mobile, Webservice

#### ITIL

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

ITIL processes include: Service Support, Change Management and the Configuration 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).

CMDBuild uses some ITIL concepts and applies them to a generic context of Asset Management.

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 (also called multiple choice or picklist).

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

See also: Attribute type

## 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: Webservice

### PROCESS

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

For each process (type of process) a new process instance will be started when users have to carry out an action on assets according to a procedure implemented as workflow.

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

The workflows managed in CMDBuild are described in the standard markup language XPDL (XML Process Definition Language), ruled by the WFMC (WorkFlow Management Coalition).

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 CMDB.

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.

Reports can be configured in the Administration Module importing in XML format the description of the layout designed with the visual editor provided by the open source project JasperReports.

CMDBuild users can print reports using the Management Module, which will result as printouts, charts, documents, labels, etc.

See also: Class, Domain, Database

### CARDS

The term "card" refers to an element stored in a class (corresponding to the record of a table in the database).

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 as template to define attributes shared between subclasses. From the abstract class, or from abstract class hierarchies, you can derive real classes that contain data and include both shared attributes (specified in the superclass) and specific subclass attributes, besides the relations on the superclass domains and on specific domains.

For example, you can define the superclass "Company" with some basic attributes (VAT number, Business name, Phone number, etc.) and the derived subclasses "Customers" and "Suppliers", each one with both generic attributes of the superclass and its own attributes and relations.

See also: Class, Attribute

### TENANT

A "tenant", in CMDBuild, is a part of the CMDB reserved to users belonging to a suborganization of the CMDBuild instance (a Group Society, a Seat, a Division, etc.).

Working in "multitenant" mode, every user works only on data of his/her suborganization and, in case, on common data: "tenants".

The list of usable Tenants can be defined from an applicable class of CMDBuild (seats, companies, customers, etc.) or from a database custom function, where you can implement complex visibility rules.

# ATTRIBUTE TYPE

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

The type of attribute and its management modes are defined in the Administration Module.

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 includes cards defined with logic criteria of filters applied to one or more CMDB classes.

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, which are provided to external applications to read or write data on CMDB or process operations.

# 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 consult or insert data or process other operations. CMDBuild includes some standards widgets to process the most common operations, but it also supplies the specifications to implement other custom widgets.