

Documentation Pandora ERP system.

2. Accounts and access control.

Description operation accounts table.

Accounts:

accountID	integer		not null	
aanhef	character varying(8)			':':character varying
voornaam	character varying(30)			':':character varying
tussenvoegsel	character varying(10)			':':character varying
achternaam	character varying(50)			':':character varying
postcode	character varying(6)			':':character varying
huisnummer	character varying(5)			
telnr	character varying(10)			
toevoeging	character varying(8)			':':character varying
email	character varying(255)			
password	character varying(255)			
account_created	character varying(10)			
account_count	integer			
geboortedatum	character varying(10)			
p1	character varying(8)			10111100
p2	character varying(8)			'0000000'::character varying
p3	character varying(8)			'0000000'::character varying
p4	character varying(8)			'0000000'::character varying
p5	character varying(8)			'0000000'::character varying
p6	character varying(8)			'0000000'::character varying
p7	character varying(8)			'0000000'::character varying
p8	character varying(8)			'0000000'::character varying
p9	character varying(8)			'0000000'::character varying
p10	character varying(8)			'0000000'::character varying
p11	character varying(8)			'0000000'::character varying
p12	character varying(8)			'0000000'::character varying
p13	character varying(8)			'0000000'::character varying
p14	character varying(8)			'0000000'::character varying
p15	character varying(8)			'0000000'::character varying
p16	character varying(8)			'0000000'::character varying

Indexes:

"accounts_pkey" PRIMARY KEY, btree ("accountID")

Referenced by:

TABLE "loonbetalingen" CONSTRAINT "account.accountID_fkey" FOREIGN KEY ("accountID") REFERENCES accounts("accountID")
TABLE "lev_accounts" CONSTRAINT "accounts_accountID" FOREIGN KEY ("accountID") REFERENCES accounts("accountID")
TABLE "klanten" CONSTRAINT "accounts_accountID_fkey" FOREIGN KEY ("accountID") REFERENCES accounts("accountID")
TABLE "werknemers" CONSTRAINT "accounts_accountID_fkey" FOREIGN KEY ("accountID") REFERENCES accounts("accountID")
TABLE "koper_accounts" CONSTRAINT "accounts_accountID_fkey" FOREIGN KEY ("accountID") REFERENCES accounts("accountID")

Above a screenshot of the table with its connections.

We will explain the fields **accountID**, **email**, **password**, **postcode**, **huisnummer**, **account_created**, **account_count**, **geboortedatum**, and the fields **p1 – p16**. The rest will be known.

accountID: The primary key off the table and also one possibility to logon. It's also possible to logon with the email address. The accountID is an 11-check weight number, which begins with a 1 and is 9 positions.

Email: second possibility to logon.

Password: The password is encrypted with argon2. The password must be at least 8 positions. It would be a small effort to extend this with for instance 2 numbers or special signs and so on.

The postcode and house number is being used by the module postcode and the tables 'postcodes', 'straat' and 'plaats'

With the postcode 4 numbers and 2 capital letters and the house number the street and residence are looked up. It's the Dutch postcode table.

Account_created: the date the account is created. The format is yyyy-mm-dd

Account_count: number of times the account logon the system.

Date of birth. Format yyyy-mm-dd

The fields **p1 – p16** serve to give entrance to certain menus or submenus.

The data consists of 8 positions of zeros or ones.

The thirist position stand for access to main menu. 0 = no access, 1 = access.

If the main menu is 0 the whole menu is disabled and greyed out. The submenu lines are disabled and greyed out if the interpretation according to competences are 0.

The menu items are:

p1 up to and including p16:

The indexes 0 for the menus are:

p1[0]-accounts, p2[0]-suppliers) p3[0]-employees, p4[0]-purchase, p5[0]-sales, p6[0]-warehouse, p7[0]-works internally, p8[0]-works externally, p9[0]-calculation works internally, p10[0],calculation works externally, p11[0]-payroll administration), p12[0]-accountancy,p13[0]-inventory management, p14[0]-management information, p15[0]-maintenance), p16[0]-reprint forms).

The indexes of the data positions 1 towards 7 stands for:

These positions are only accessible then the thirist position has been activated (menu item).

p(x)x[1] = special access (sensitive information or strictly personal)

p(x)x[2] = ordering (purchase or sales)

p(x)x[3] = input new item

p(x)x[4] = change item

p(x)x[5] = print items

p(x)x[6] = request / query

p(x)x[7] = level

where (x)x stands for 1 - 16

With the last menu item reprint forms, only the menu is enabled / disabled

The possibility to print forms are linked via the other main menus.

If the main menu is accessible for the user but the submenu item is not, the submenu items are greyed out and not accessible.

The permissions to menus and submenus can be set, by an authorized person in the menu maintenance – mutate authorizations.

A two-step verification has been set up for sublevel menu items so it's possible to set disabled items in certain submenus.

The two-step verification is the "level" authorization (7th position, counting from 0) and the normal authorization (ordering, insert, modify, request, printing or query).

With this verification access is set with one choice in the main menu, the access to the authorization for insert, modify or request is set in the sublevel menu.

These items are:

Menu 'Purchase' - '4. Ordering / view orders equipment'

Menu 'Works externally' – '9. Parameters Services',

Menu 'Payroll administration' – '8. Parameters Hours' – '9. Parameters Wages' – '10. Parameters Periods-Wages',

Menu 'Accounting' – '8. Parameters Finance'

Menu 'Management Information' – '5. Parameters Graphs',

Menu 'Maintenance' – '4. Parameters System'

The authorizations in the remaining menu items must be set according to following list:

The list consists of 16 sections representing 16 menus. The 16th choice is only main menu access.

Reprint options of this 16th menu are arranged via the other menus by setting print access.

For a detailed explanation of this, see documentation 'Reprint forms'

The section numbering in the list begins with 0, also the numbering of menu line numbers in the list begins with 0.

The positions within the section represents the menu lines.

The number of this positions represent the authorization. When it's set in 'Maintenance' – 'Mutate authorizations' the authorization is granted, when its unset authorization is denied.

By example:

Section 1 represents the first main menu; section 2 represents the second main menu and so on.

The first position in the section represent access to main menu.

The second position in the section represent the 1st menu line and so on.

The number of the position represents the authorization.

By example position 2 in menu 4 (starting with 0) stands for Menu 'Sales' – line 'Sales-company modify'

The number of the second position in the list here is 4 (starting from 0), so the position in the database table is 4 and this correspondence to modify.

If set access, unset is access denied.

0 = Main menu access (set is access, unset is access denied)

1 = Special

2 = Ordering

3 = Insert

4 = Modify

5 = Printing

6 = Query

7 = Level

The list with menu and menu lines access:

([0, 4, 6, 2, 2, 5] , [0, 3, 4, 6, 1] , [0, 1, 4, 6, 6] , [0, 3, 4, 3, 7, 6, 6, 6] , [0, 3, 4, 6, 1, 6],
[0, 3, 4, 6, 4, 5, 1, 6, 3, 6] , [0, 3, 4, 6, 3, 5, 3] , [0, 3, 4, 6, 2, 6, 3, 3, 3, 7] ,
[0, 3, 4, 6, 3, 6, 3, 6, 1, 1] , [0, 4, 4, 6, 3, 6, 3, 6, 1, 1] , [0, 6, 2, 1, 6, 3, 4, 1, 7, 7, 7],
[0, 6, 6, 2, 6, 2, 5, 6, 7, 6] , [0, 2, 1, 1, 1, 1] , [0, 1, 6, 6, 6, 7] , [0, 1, 3, 3, 7, 4] , [0])

Default permissions are set when creating an account.

These permissions are:

Insert own account from the main logon screen, change own account, ordering online products, request your (own) order overviews, printing (own) invoices.

The accounts can be linked to employees, sales (the employees of the sale company) or Purchase (the employees of the purchasing company). These accounts can only access own company data.

Default the account is linked to clients. Specific for information about payments.

When calling the program modules from the main menu one or more parameters are included. The main parameter is the email address of the user who is logged on. The purpose of this parameter is to remain access control by returning to the main menu with this parameter, so the authorizations can be set, without logging in again.

Several parameters are set by calling certain modules for next purposes:

1. Starting same modules with a routing parameter for different work departments, so the modules act different.

Example menu sales view online orders. The buttons print packing slip and print invoice are disabled with this entrance.

By menu warehouse is button print backing slip enabled and by menu accounting is button print invoices enabled.

2. Starting a module with parameters and returning for executing the module with functions which changed values are held by the system. A good example here is data transaction hours by menus 'Internal works' and 'External works'

Here the last changed work number and account number is held by the system. Also the state of the button 'Transaction' is colored red if a transaction fail and colored green if a transaction is successful.

In these modules 'urenMutaties.py' and 'urenImutaties.py' also totals of worked and budgeted hours per discipline are showed, with there concerning discipline for consumption hours usage information. (hours monitoring)

3. Starting a module with a parameter for writing and reading in different database tables by different menu entries.

Example here is item call by menus 'Internal works' and 'External works'