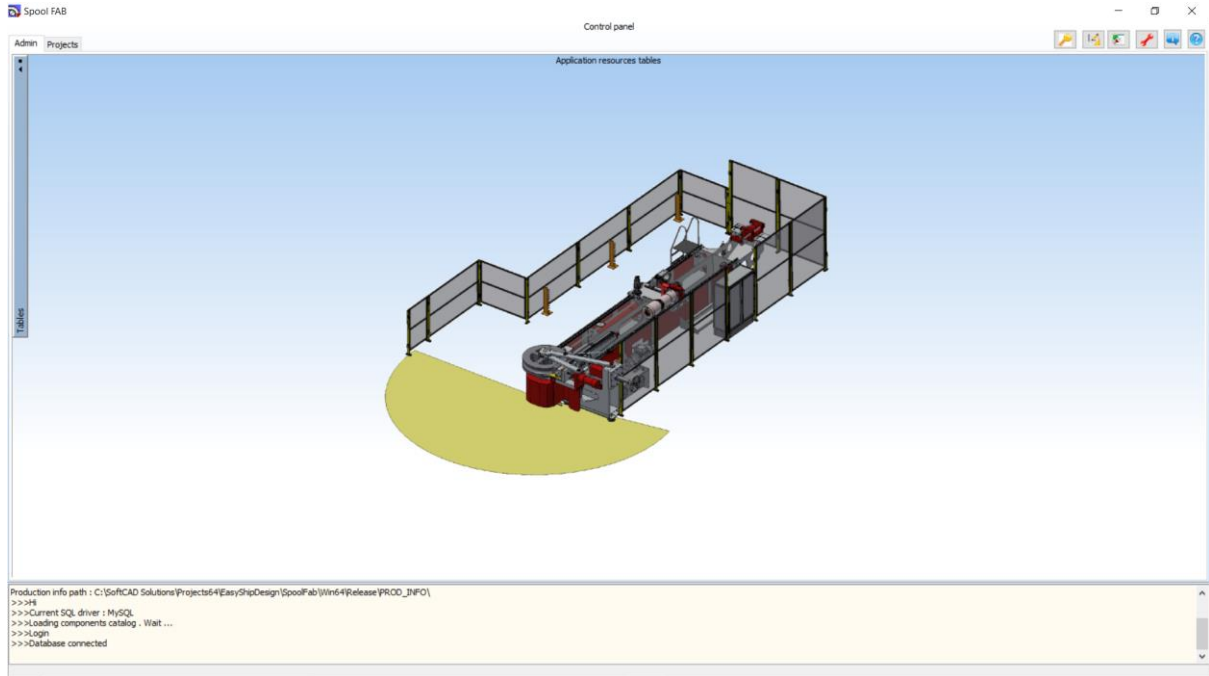
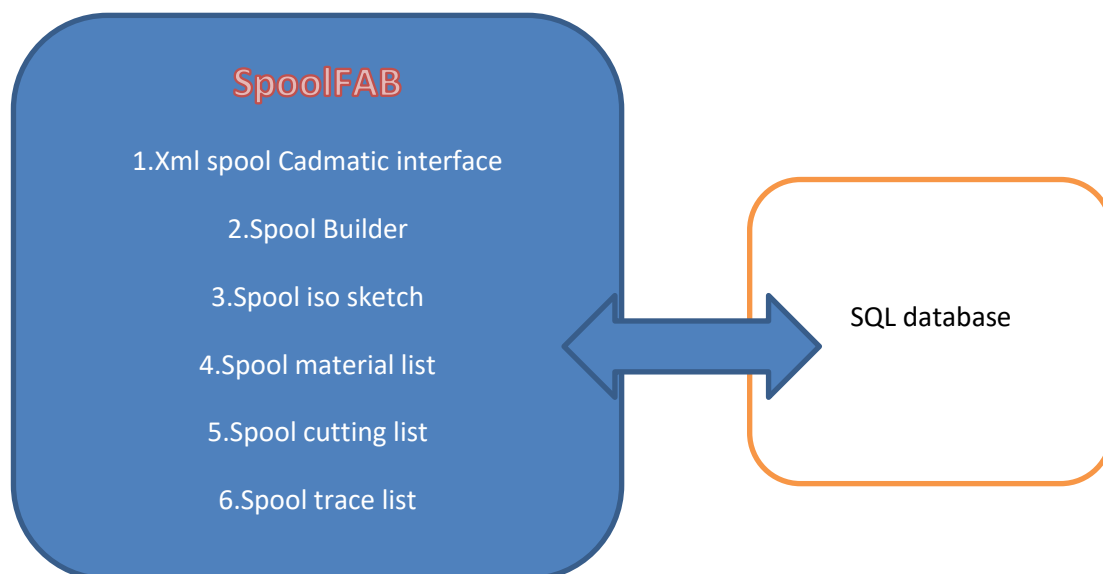


SpoolFAB

SpoolFAB , aplicatie destinata producerii documentatie de executie spool-uri in atelierul de tevi.

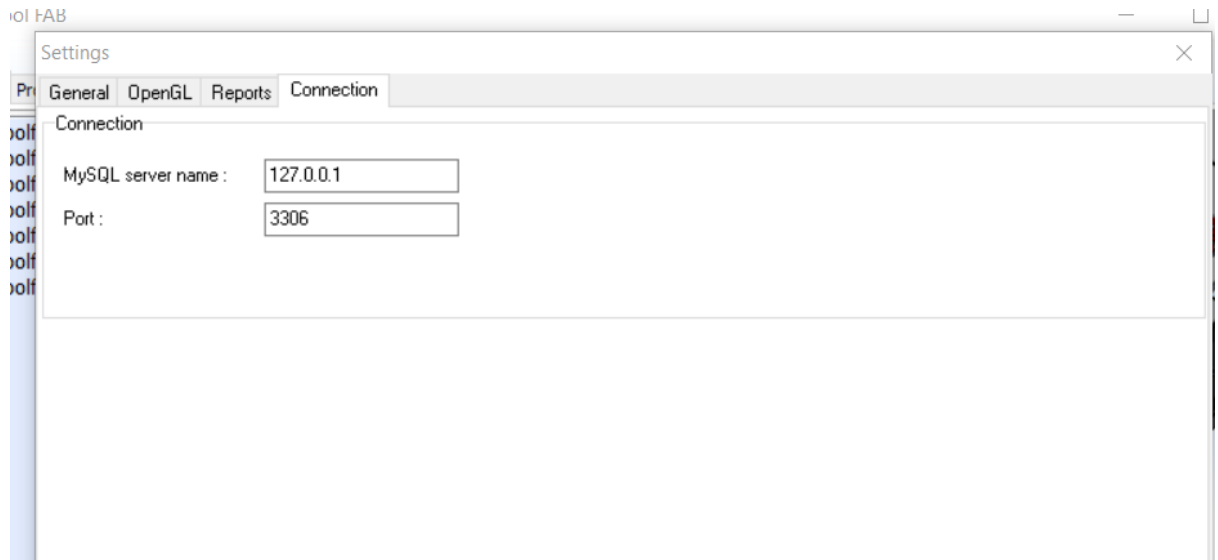


Arhitectura software este formata din mai multe module integrate intr-o singura aplicatie conectata la un server baze de date SQL



Administare

La prima pornire a aplicatiei , aplicatia va afisa fereastra pentru introducerea datelor de conexiune , locatie server si port de comunicare. Aplicatia trebuie sa poata comunica prin port cu serverul SQL, ceea ce implica ca portul sa nu fie blocat de firewall si nici aplicatia.



Se apasa butonul Ok si se inchide aplicatia.

Se porneste aplicatia , iar aceasta se conecteaza la serverul SQL si isi genereaza baza de date si tabelele de resurse necesare ala aplicatiei. Numele bazei de date este **spoolfabricationdb**. Prin urmare toate tabelele din aceasta baza de date vor avea numele complet de forma :

spoolfabricationdb.numetabel

Dupa introducerea datelor de conectare userul se poate conecta cu user name-ul admin si parola data de numele userului curent windows.

Observatie: Aplicatia se poate conecta si la un server Microsoft SQL Server

Mai jos parametri de conexiune ca exemplu din fisierul ini

Daca database este empty baza de date default este utilizata spoolfabricationdb

[Connection]

ServerName=86.120.145.43\SQLEXPRESS

ServerPort=1433

ServerDataSnapPort=13306

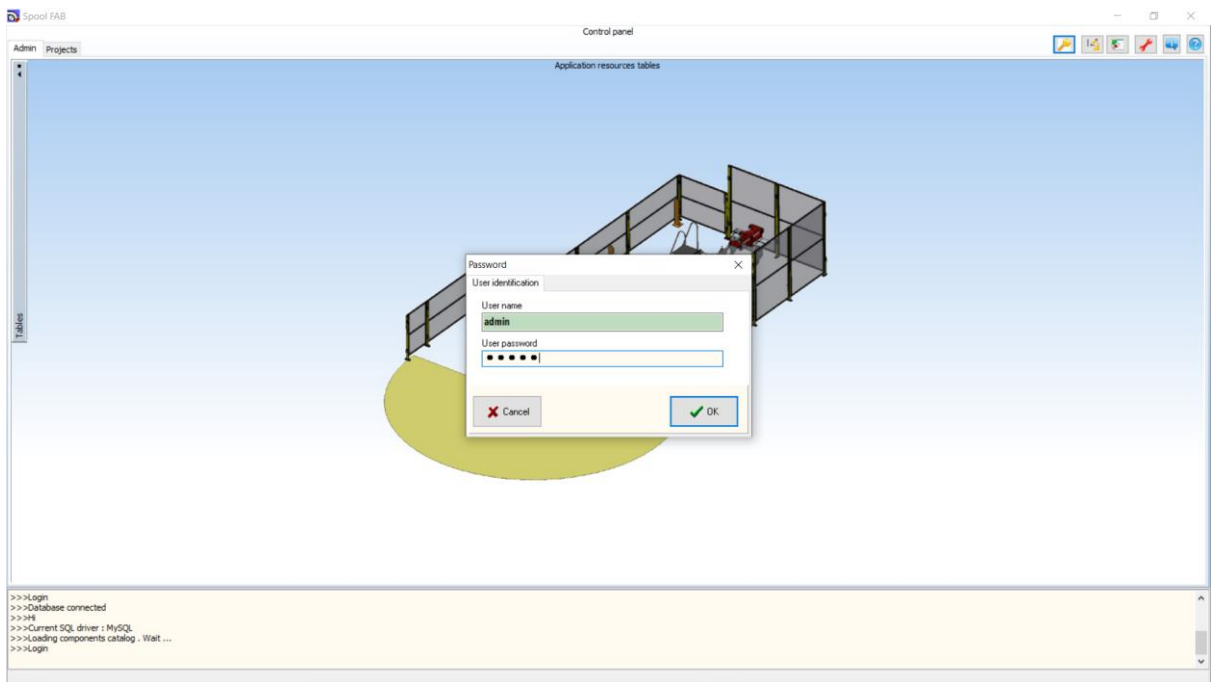
StartSNAPServer=0

databaseName=

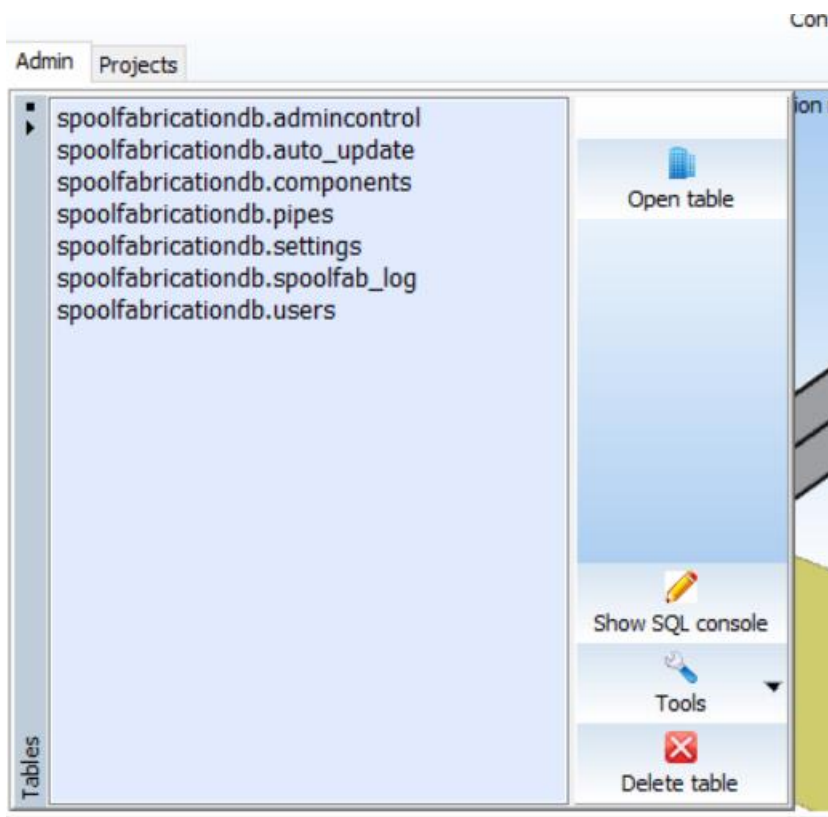
SQLDriverName=MsSQL

sqlUserName=spoolfabrication

sqlUserPassword=spoolfabrication2021



In pagina ADMIN vor aparea listate tabele cu resursele aplicatiei

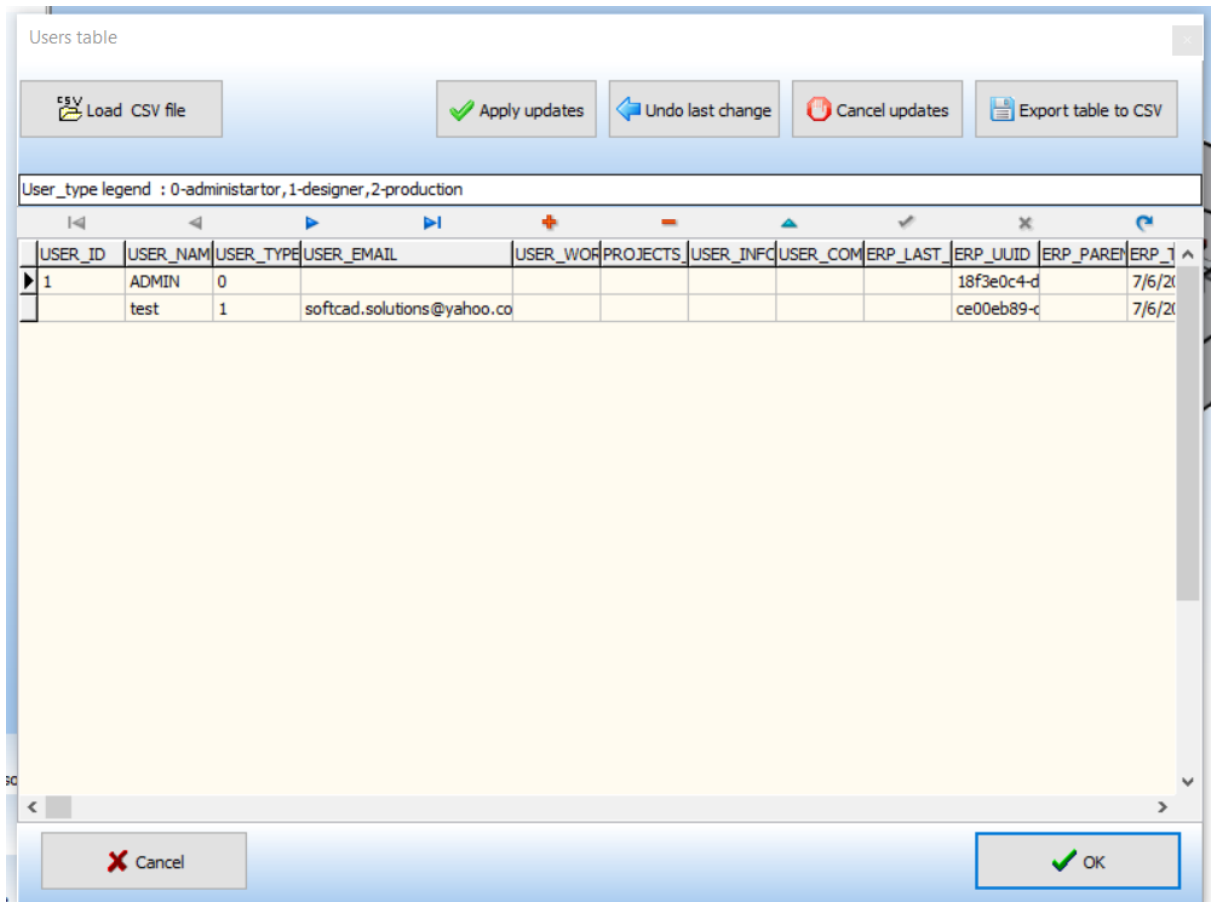


Users : tabel cu definirea userilor

Exista 3 tipuri de useri , 0 admin, 1 designer , 3 production

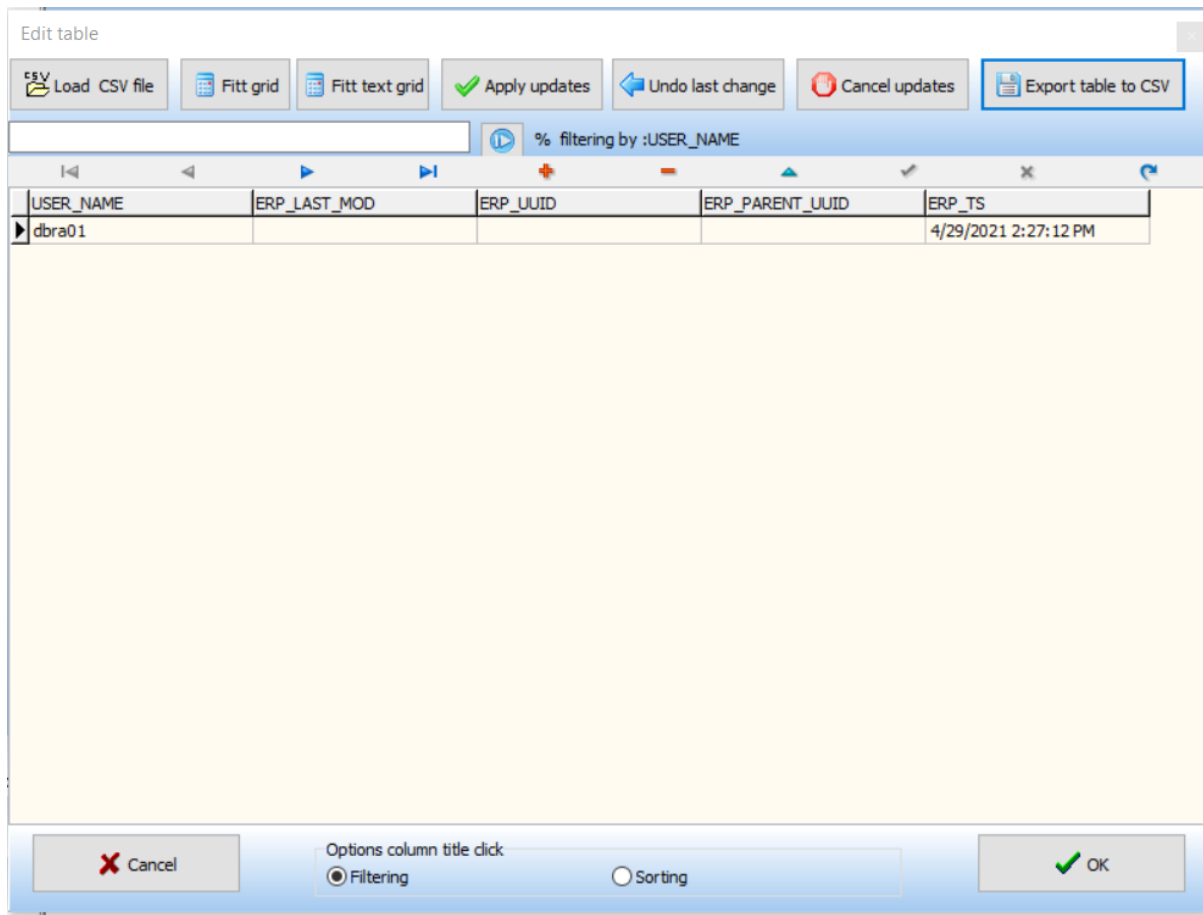
Aplicatia se va configura in functie de tipul userilor.

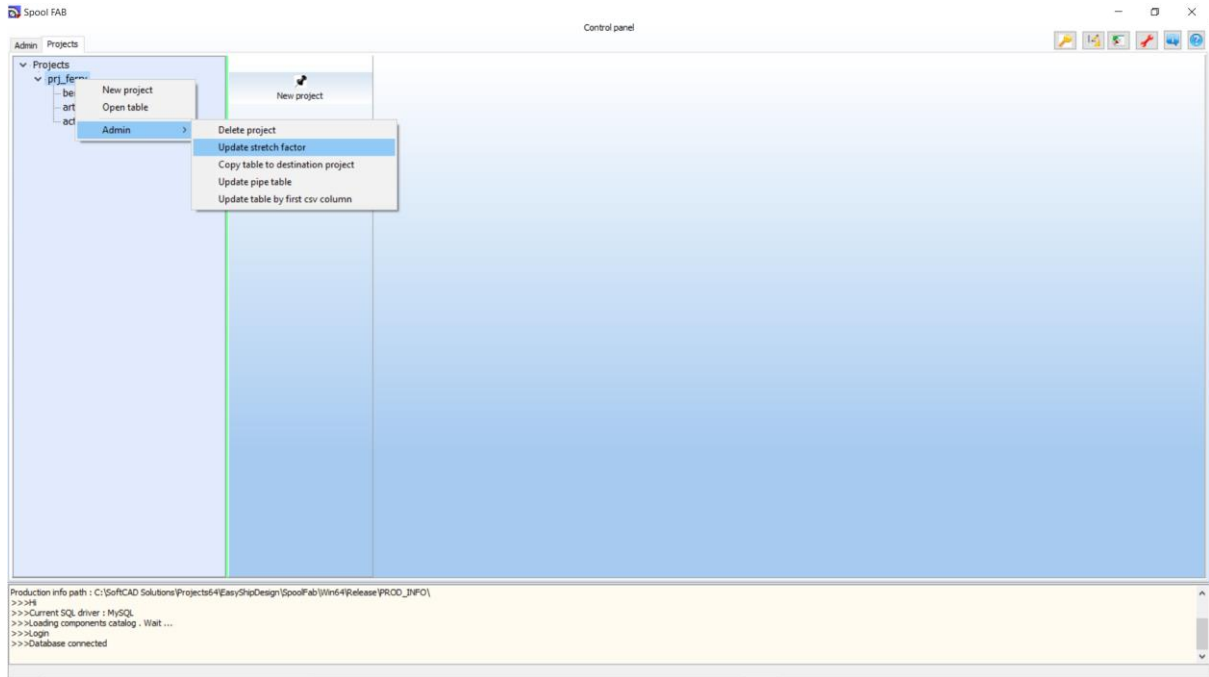
Adresa de e-mail este mandatorie si trebuie sa fie valida si utilizata de contul curent de Outlook.



Parola user este data de numele curent al user windows.

AdminControl: permite definirea de super useri , care vor avea acces la functiile de admin pe proiect

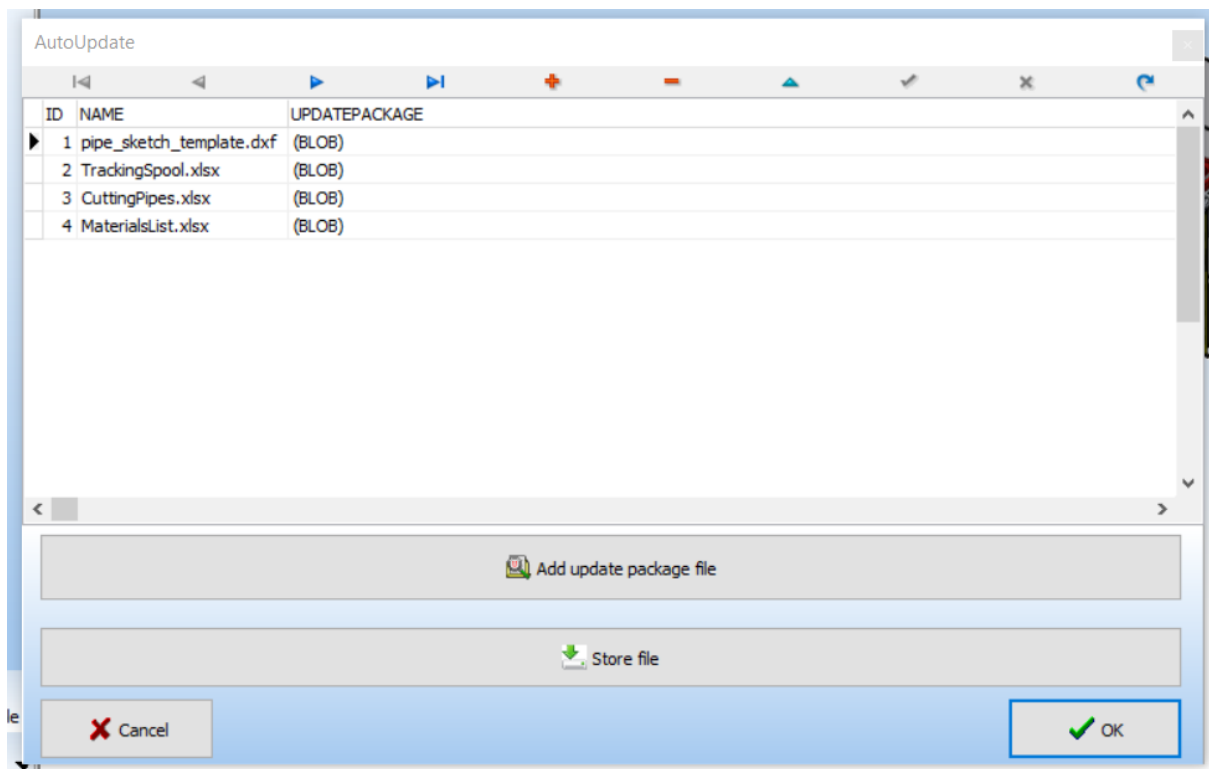




Auto_Update :

Butonul “Add update package file” permite selectarea si stocarea unei versiuni noi ale aplicatie

Butonul “Store file” permite stocarea de fisiere utilizate ca sabloane in aplicatie



Pipes: tabel cu lista de tevi disponibile in aplicatie . Pentru ca o teava sa existe in aplicatie aceasta trebuie definite in acest tabel

Edit table

% filtering by :CERTIFICATE

	CERTIFIC	CLASS	NOMINAL	OUTER_D	THICKNES	WEIGHT	LENGTH	MATERIA	ARTICLE_CODE	WELDING_GAP	ERP_LAS	ERP_UUII	ERP_PAR	ERP_TS
▶	Certificat	b" heavy	100	114.3	5	13.4	6000	STEEL	1268390	2		00ab896b		6/10/202
	Certificat		65	76.1	2	3.65	6000	INOX	1006878	1.5		010e0000		6/16/202
	Certificat		20	26.9	5	2.7	6000	STEEL	24161326	2		01e2b885		6/16/202
	Certificat		25	33.7	2.6	1.99	6000	STEEL	1279464	1.5		020d0019		6/16/202
	Certificat		100	114.3	4.5	12.19	6000	STEEL	24176225	2		0234657f		6/16/202
	Certificat		25	33.7	2.6	1.99	6000	STEEL	24177797	1.5		02891bce		6/16/202
	Certificat		65	76.1	6.3	10.84	6000	STEEL	24121385	2.5		028aa37e		6/16/202
	Certificat		50	60.3	4	5.55	6000	STEEL	24161953	2		02ab2087		6/16/202
	Certificat		80	88.9	7.6	15.24	6000	STEEL	1210511	3		02dc8c54		6/16/202
	Certificat		350	355.6	4.78	41.36	6000	INOX	1164174	2		032742c1		6/16/202
	Certificat	b" heavy	150	168.3	6.3	25	6000	STEEL	1210893	2.5		0363b63c		6/10/202
	Certificat		100	114.3	6.3	16.78	6000	STEEL	1210409	2.5		039e7ed5		6/16/202
	Certificat		200	219.1	20	98.2	6000	STEEL	24171354	4		043b8f94		6/16/202
	Certificat		80	88.9	4	8.38	6000	STEEL	24176794	2		047e8bc7		6/16/202
	Certificat		200	219.1	3.76	19.97	6000	INOX	1212974	2		04bf0c68		6/16/202
	Certificat		50	60.3	4.5	6.19	6000	STEEL	1209540	2		04f6efe8		6/16/202
	Certificat		100	114.3	8.8	22.9	6000	STEEL	24160185	3		05c549d4		6/16/202
	Certificat		100	114.3	11	28.02	6000	STEEL	24171888	3.5		05f2b6c0		6/16/202
	Certificat		250	273	4.5	29.8	6000	STEEL	1006706	2		0668795f		6/16/202
	Certificat		200	219.1	2	10.71	6000	INOX	1006273	1.5		06935310		6/16/202
	Certificat		20	26.9	8	3.73	6000	STEEL	24174731	3		06d82eeb		6/16/202

Options column title click: Filtering
 Sorting

Article_code_eq : tabel cu definitia codurilor materialelor si echivalenta lor plus parametri geometrici initiali, grupe de materiale ...

Edit table

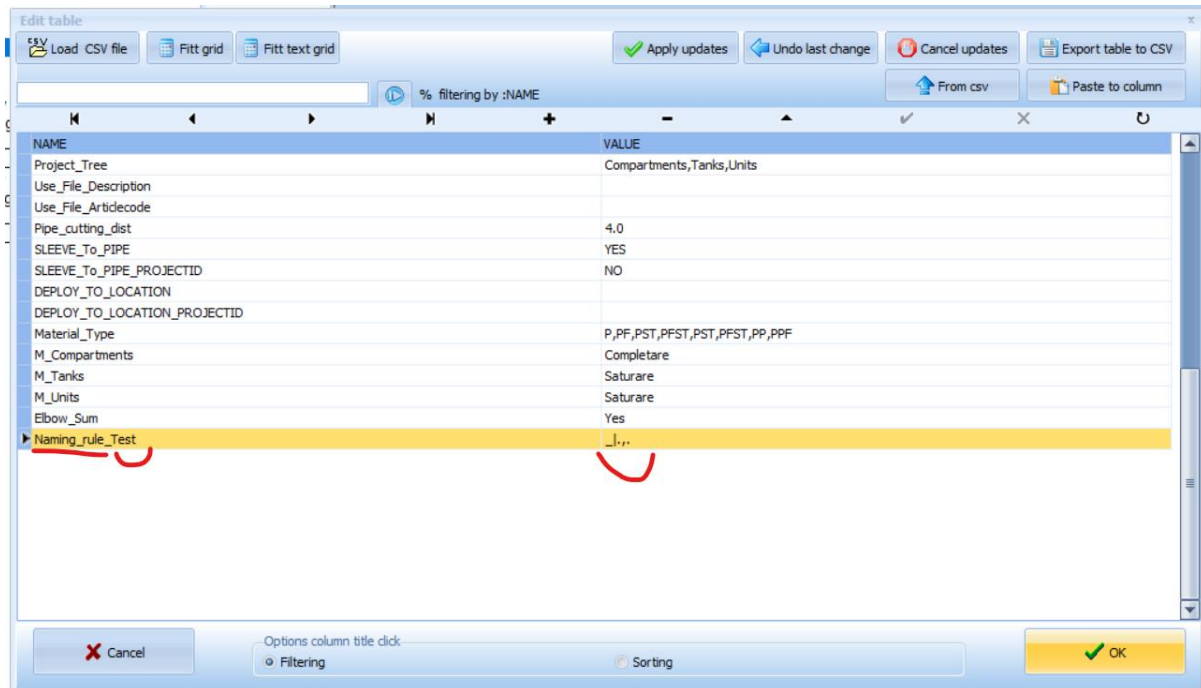
% filtering by :ARTICLE_CODE

ARTICLE_CODE	DESCRIPTION	FOREIGN	KEYWORD	EQ_ARTIC	WEIGHT	LENGTH12	LENGTH34	LENGTH14	OUTERDI1	OUTERDI2	ELBOW_R	ERP
4175/052	FLANSA PP-GF DN 125 ART (FPM 72		FLANGE		0.8	30						
26454641	RACORD VRNW 25HL 3/4				0.46							
96403946	REDUCTIE EXCENTRICA 273 X 6,4		REDUCER		6.69	178						
26489914	TEU EGAL 88,9 X 4,5		TEE		2.7							
26488124	TEU EGAL 219,1 X 3,76		TEE		10							
1491/206	TEAVA PE 63 X 5,8 ART 193017161	1491/206	PIPE		1.06							
26467235	COT GL 90 GR 76,1 X 5 R 1,5D		ELBOW		1.31							
1158207-ES	MANSON CAPAT 70 X 10 L=60 (124		SLEEVE		0.888							
24162546-DL	MANSON DUBLU 193.7 X11 L=250		SLEEVE		12.391							
1234446	FLANSA CU GAT PN 40 DN 32/42.4 (FLANGE		1.96	42						
90867083	INEL DE TRECERE DN 100/114 (D 22				3.5							
45708374	GARNITURA PN 16 DN 50 GROS 2MM				0							
1209829-CS	MANSON CUPLARE 73.03 X 5.16 L=		SLEEVE		0.7	2						
1524M098	VALVE,SCREW-DOWN N.R. DISC ST				2							
1471M34	VALVE,BALL VALVES THREADED 3/4				0.4							
90811354	BRATARA 60 TIP I NEAGRA L= 350				0							
4351/174	REDUCTIE CONC. 609,6 X 12,7 / 50	4351/174	REDUCER		99.9	508						
24159421	TEAVA 88,9 X 5,6 CERTIFICAT 3.1		PIPE		11.5							
28269154	TEU EGAL 15 ART 100131		TEE		0							
4335/352	LONG TURN TEE, PPFR DN50 (GF-52				0.312							
26496884	REDUCTIE CONCENTRICA 168.28 X		REDUCER		1.65	139.7						

Filtering
 Sorting

Settings : tabel cu variabile setate in aplicatie

Ca regula se pot defini variabile globale sis per proiect , ex: DEPLOY_TO_LOCATION este variabila globala , DEPLOY_TO_LOCATION_12345 este o variabila globala actualizata local pentru proiectul 12345



Observatie:

Variabile Naming_rule_projectid este utilizata pentru a extrage din numele iso , partea care este utila pentru user . Separatorul | este utilizat pentru a separa separatoarele la stinga si la dreapta.

Ex:

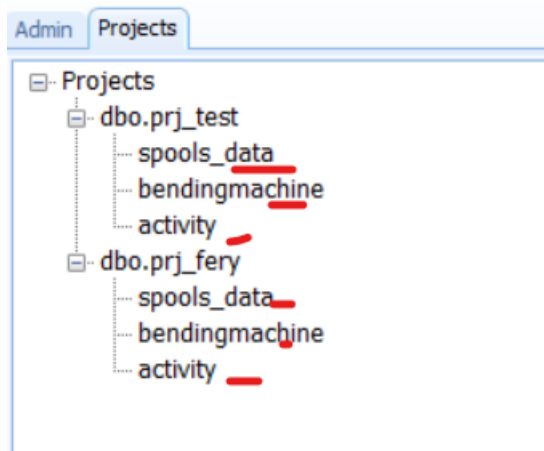
```
<Iso name="6640L0073_1132.66.8013" version="6.0" sys="6640" pli="6640L0073"
Project="Amels_18804" Rev="A">
```

Utilizez |_|.. _ este la limita prefix(stanga) , . este utilizat de 2 ori si defineste limita la dreapta sufix

asta inseamna ca numele va fi extras in felul urmator `Iso name="6640L0073_|132.66.8013"`

"6640L0073.8013" , iar 1132.66 va sectia si va fi stocata in coloana part_spn care este disponibila la spool.

Pentru fiecare proiect exista tabele specifice :



BendingMachine : tabel cu definitia masinilor utilizate in proiect

Edit table

% filtering by :NAME

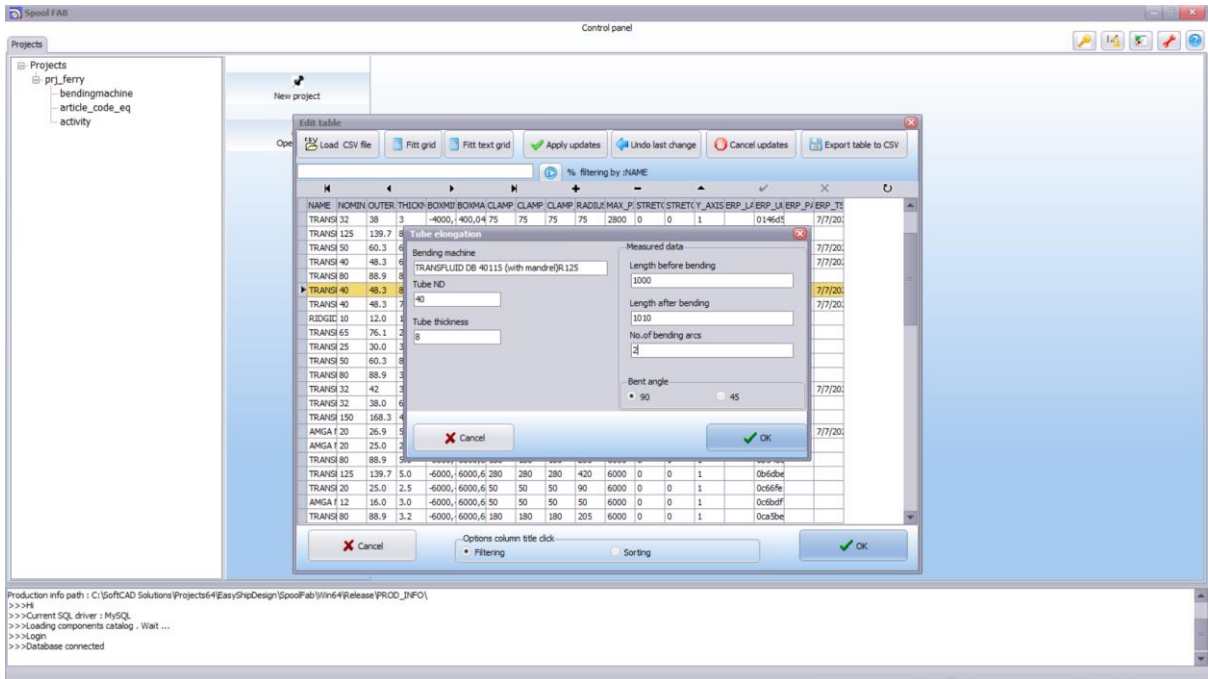
NAME	NOMIN	OUTER	THICK	BOXMI	BOXMA	CLAMP	CLAMP	CLAMP	RADIU	MAX_P	STRET	STRET	Y_AXIS	ERP_L	ERP_U	ERP_P	ERP_T
TRANSFLUID DB 40168(wi	125	139.7	8.8	-6000,	6000,6	280	280	280	420	6000	0	0	1				01a0fe
TRANSFLUID DB 40115 (w	80	88.9	8.8	-6000,	6000,6	180	180	180	270	6000	0	0	1				029863
RIDGID (without mandrel)	10	12.0	1.0	-6000,	6000,6				38	6000	0	0	1				038584
TRANSFLUID DB 40115 (w	65	76.1	2.9	-6000,	6000,6	150	150	150	230	6000	0	0	1				0434b7
TRANSFLUID DB 40115 (w	25	30.0	3.2	-6000,	6000,6	60	60	60	105	6000	0	0	1				046879
TRANSFLUID DB 40115 (w	50	60.3	8.74	-6000,	6000,6	121	121	121	150	6000	0	0	1				049f39
TRANSFLUID DB 40115 (w	80	88.9	3.2	-6000,	6000,6	180	180	180	270	6000	0	0	1				04db22
TRANSFLUID DB 40115 (w	32	38.0	6.0	-6000,	6000,6	75	75	75	75	6000	0	0	1				068d5c
TRANSFLUID DB 40168(wi	150	168.3	4.5	-6000,	6000,6	340	340	340	450	6000	0	0	1				06aff7
AMGA MINI 42 (without m	20	25.0	2.0	-6000,	6000,6	50	50	50	75	6000	0	0	1				0a21d7
TRANSFLUID DB 40168(wi	80	88.9	5.0	-6000,	6000,6	180	180	180	205	6000	0	0	1				0b5480
TRANSFLUID DB 40168(wi	125	139.7	5.0	-6000,	6000,6	280	280	280	420	6000	0	0	1				0b6dbe
TRANSFLUID DB 642 K (wi	20	25.0	2.5	-6000,	6000,6	50	50	50	90	6000	0	0	1				0c66fe
AMGA MINI 42 (without m	12	16.0	3.0	-6000,	6000,6	50	50	50	50	6000	0	0	1				0c6bdf
TRANSFLUID DB 40115 (w	80	88.9	3.2	-6000,	6000,6	180	180	180	205	6000	0	0	1				0ca5be
TRANSFLUID DB 40115 (w	65	76.1	8.0	-6000,	6000,6	150	150	150	230	6000	0	0	1				0d8227
TRANSFLUID DB 40115 (w	32	42.4	5.0	-6000,	6000,6	85	85	85	140	6000	0	0	1				0de6a3
TRANSFLUID DB 40115 (w	50	60.3	7.0	-6000,	6000,6	121	121	121	300	6000	0	0	1				0df8cf
TRANSFLUID DB 40115 (w	65	76.1	3.6	-6000,	6000,6	150	150	150	230	6000	0	0	1				0e5c14
TRANSFLUID DB 642 K (wi	25	28.0	3.0	-6000,	6000,6	55	55	55	56	6000	0	0	1				0fa03c
TRANSFLUID DB 40168(wi	150	168.3	6.3	-6000,	6000,6	340	340	340	505	6000	0	0	1				127de4
TRANSFLUID DB 40115 (w	32	38.0	3.2	-6000,	6000,6	75	75	75	75	6000	0	0	1				1371fa

Filtering
 Sorting

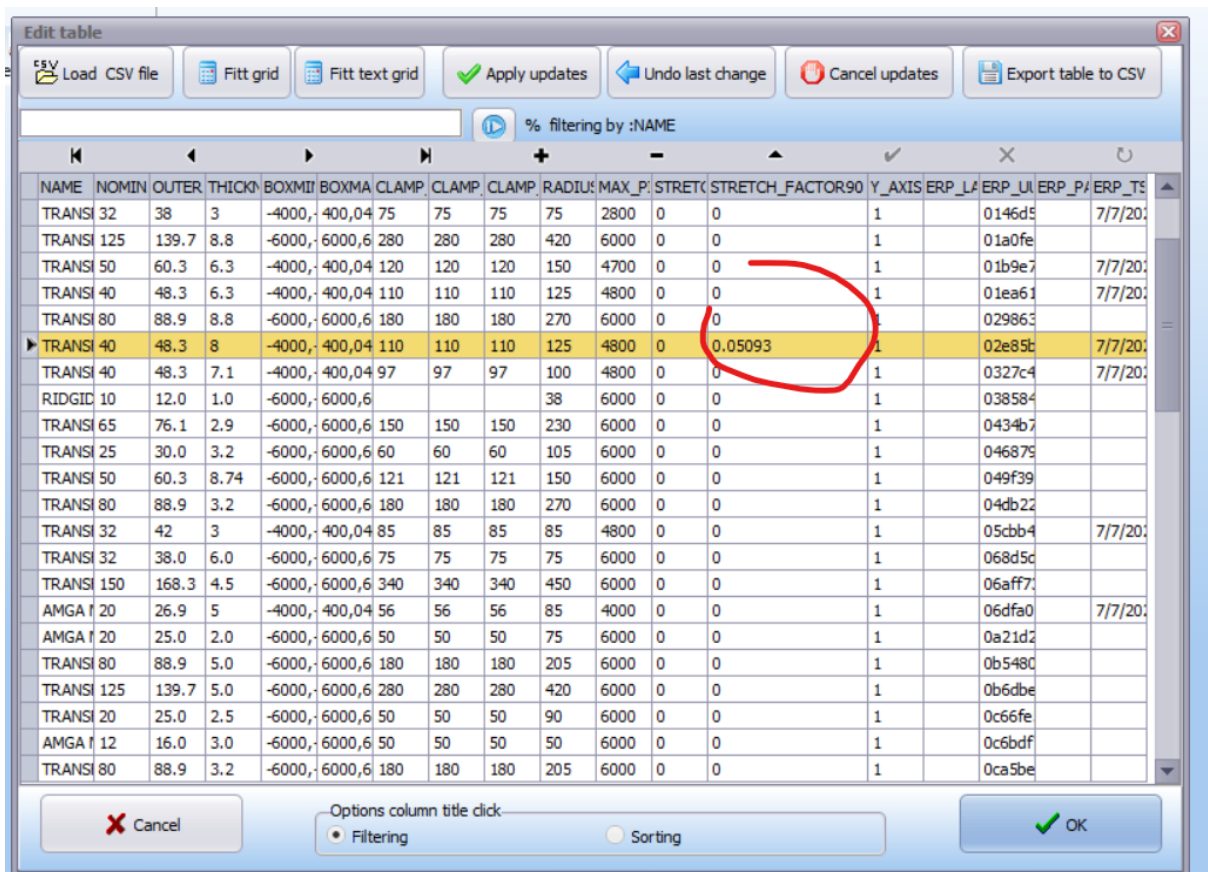
Definire factori de alungire .

In tabelul de tevi dbclick pe linie si urmatoarea forma va aparea .

Se introduce valorile lungime inainte de indoire ,dupa indoire , numarul de indoituri , ungi de indoire



Aplicatia va calcula coeficientul de alungire per arc corespunzator unghi de 90.



Cele doua valori pentru unghi de 90 si 45 vor fi utilizate la interpolare si determinarea valorii alungirii teii corespunzatoare unghiului curent de indoire.

Activity: tabel cu lista de activitati si datele corespunzatoare

Edit table

% filtering by :PROJECT_NAME

PROJECT_NAME	SUB_PROJECT	SUB_PROJECT	ACTIVITY_ID	ACTIVITY_DESC	EARLY_START	EARLY_FINISH	ERP_LAST_MOD	ERP_LUID	ERP_PARENT_LUID	ERP_TS
Damen Road Fe	1000041737	Pipe outfitting si	3	SF204PM01 Pipe	11.05.2020	13.08.2020		037230e5-e6b7		7/2/2021 3:02:...
Damen Road Fe	1000041756	Pipe prefabricat	2	SF108PP01 Pipe	04.05.2020	04.09.2020		041e9c3d-6457		7/2/2021 3:02:...
Damen Road Fe	1000041758	Pipe prefabricat	3	SF302PP01 Pipe	01.09.2020	15.10.2020		05c217b9-fd88-		7/2/2021 3:02:...
Damen Road Fe	1000041757	Pipe prefabricat	9	SF402PP01 Pipe	15.06.2020	20.07.2020		0663df15-6c0c-		7/2/2021 3:02:...
Damen Road Fe	1000041739	Pipe outfitting si	8	SF401PM01 Pipe	29.06.2020	24.07.2020		0b39dd7d-dcb1		7/2/2021 3:02:...
Damen Road Fe	1000041739	Pipe outfitting si	10	SF403PM01 Pipe	11.09.2020	14.09.2020		0f42ad17-e24d-		7/2/2021 3:02:...
Damen Road Fe	1000041740	Pipe outfitting si	4	SF310PM01 Pipe	09.10.2020	15.10.2020		1f0f7ce9-da66-		7/2/2021 3:02:...
Damen Road Fe	1000041846	Prefabrication p	1	SFTKB1PP01 Pip	10.02.2020	23.09.2020		35da8822-6aad		7/2/2021 3:02:...
Damen Road Fe	1000041738	Pipe outfitting si	4	SF206PM01 Pipe	14.09.2020	23.09.2020		37b45b67-789d		7/2/2021 3:02:...
Damen Road Fe	1000041740	Pipe outfitting si	1	SF158001PM01	28.10.2020	30.10.2020		3b6da097-de3e		7/2/2021 3:02:...
Damen Road Fe	1000041740	Pipe outfitting si	3	SF302PM01 Pipe	22.09.2020	29.09.2020		3d12d66d-46bb		7/2/2021 3:02:...
Damen Road Fe	1000041757	Pipe prefabricat	8	SF401PP01 Pipe	15.06.2020	16.07.2020		3e3b9c13-fa85-		7/2/2021 3:02:...
Damen Road Fe	1000041736	Pipe outfitting si	2	SF105PM01 Pipe	25.03.2020	08.05.2020		407617e4-4c44		7/2/2021 3:02:...
Damen Road Fe	1000041757	Pipe prefabricat	10	SF403PP01 Pipe	01.09.2020	15.09.2020		4116b7c3-47dc-		7/2/2021 3:02:...
Damen Road Fe	1000041757	Pipe prefabricat	6	SF308PP01 Pipe	24.08.2020	06.10.2020		42f7df11-6345-		7/2/2021 3:02:...
Damen Road Fe	1000041737	Pipe outfitting si	4	SF205PM01 Pipe	25.05.2020	21.08.2020		43092ec5-35fc-		7/2/2021 3:02:...
Damen Road Fe	1000041757	Pipe prefabricat	4	SF306PP01 Pipe	25.05.2020	20.07.2020		464b7c7c-c16f-		7/2/2021 3:02:...
Damen Road Fe	1000041737	Pipe outfitting si	1	SF202PM01 Pipe	18.05.2020	26.08.2020		4e2b82cc-3c57-		7/2/2021 3:02:...
Damen Road Fe	1000041627	For Keel	5	SF104PP01 Pipe	09.12.2019	25.02.2020		52934748-0c5b		7/2/2021 3:02:...
Damen Road Fe	1000041757	Pipe prefabricat	7	SF309PP01 Pipe	24.08.2020	30.09.2020		570aecf6-266f-		7/2/2021 3:02:...
Damen Road Fe	1000041739	Pipe outfitting si	5	SF307PM01 Pipe	04.08.2020	28.08.2020		65d20a87-032f-		7/2/2021 3:02:...
Damen Road Fe	1000041737	Pipe outfitting si	2	SF203PM01 Pipe	11.05.2020	14.08.2020		65eca448-8a31		7/2/2021 3:02:...

Filtering
 Sorting

Cateva observatii :

Fereastra utilizata pentru afisarea tabelor are urmatoarele controale:

CTRL+A , select all

Shift+Arrow down , selectie

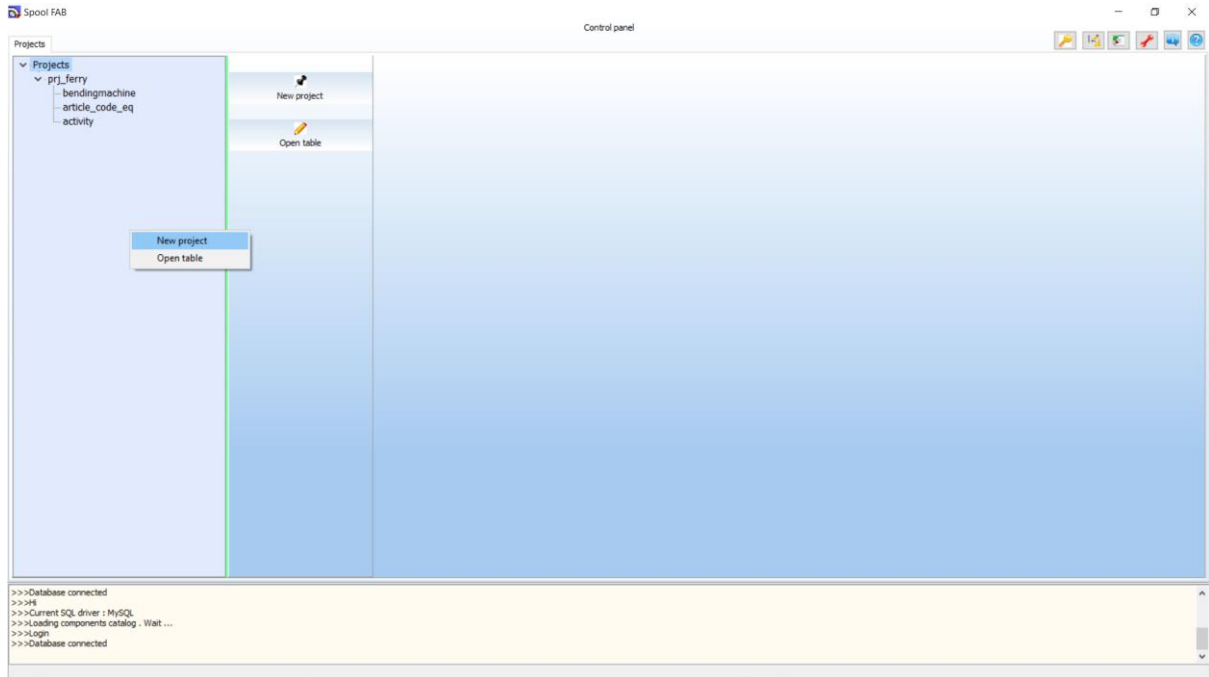
Left mouse +CTRL , selectie pe linie

Tasta Delete apasa seterge selectia curenta

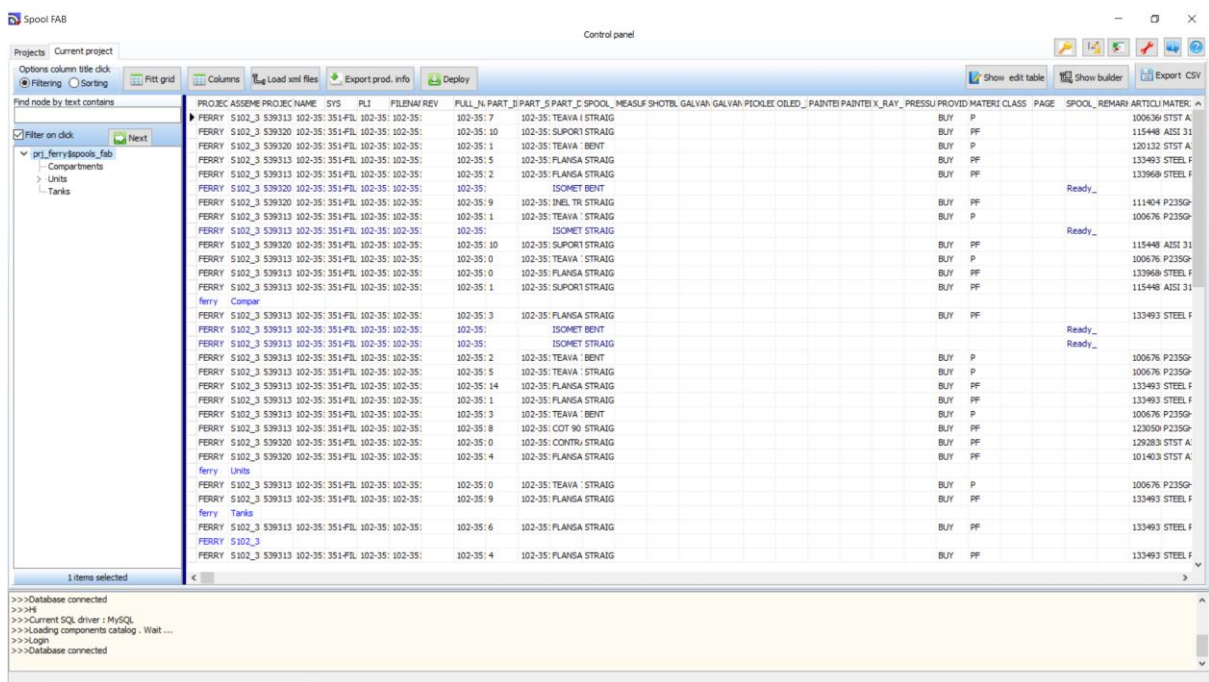
Aplicatia lucreaza in mod "Cashed update" , ceea ce inseamna ca modificarile sunt facute in tabel local dupa care la apasarea butonului Apply updates sunt transferate pe server(doar ce sa modificat)

Mod de lucru

Aplicatia organizeaza informatia in proiecte si prin urmare inainte de orice actiune trebuie creat un proiect. Aceasta operatiune va crea si tabelele corespunzatoare , care vor trebui sa fie populate.



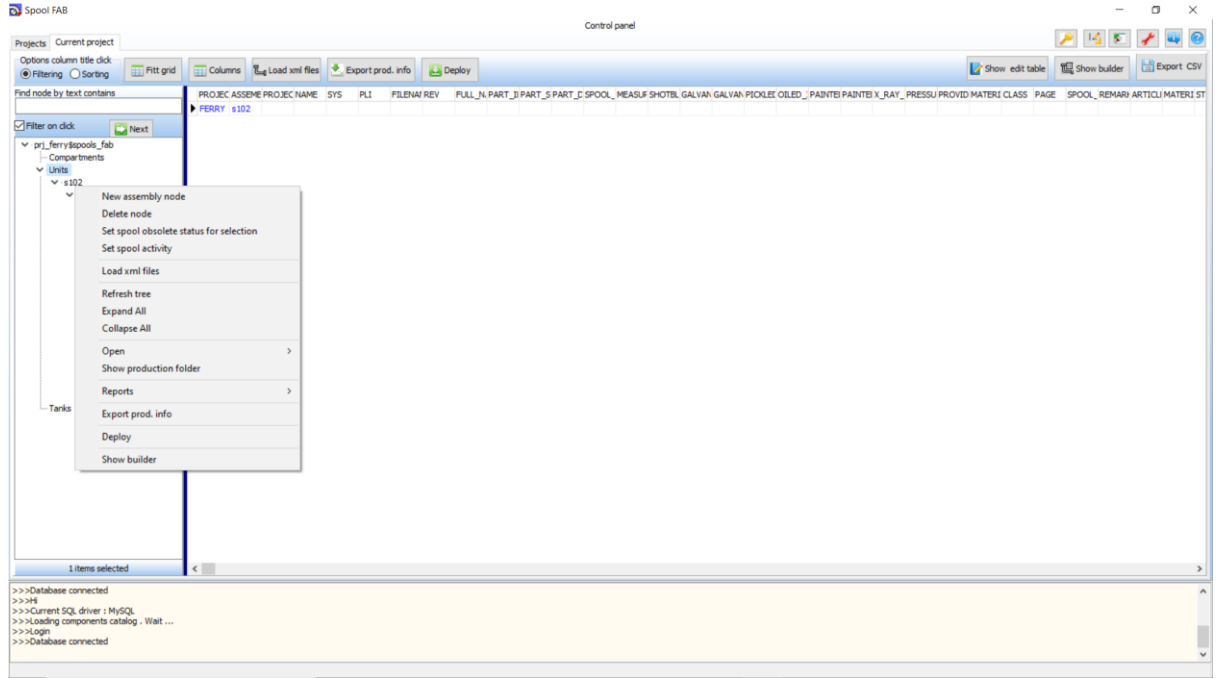
Open table sau dbclick pe numele tabelului il va deschide si userul va avea acces la el.



Fereastra de proiect este impartita in principal in 3 zone :

- Zona grid cu preview al inregistrarilor din baza de date
- Zona tree care arata structura albumelor in baza de date si care este de fapt zona de actiune a userului
- Fereastra de mesaje in care aplicatia va afisa mesaje

In Zona Tree , right click si un popup cu functii este disponibil

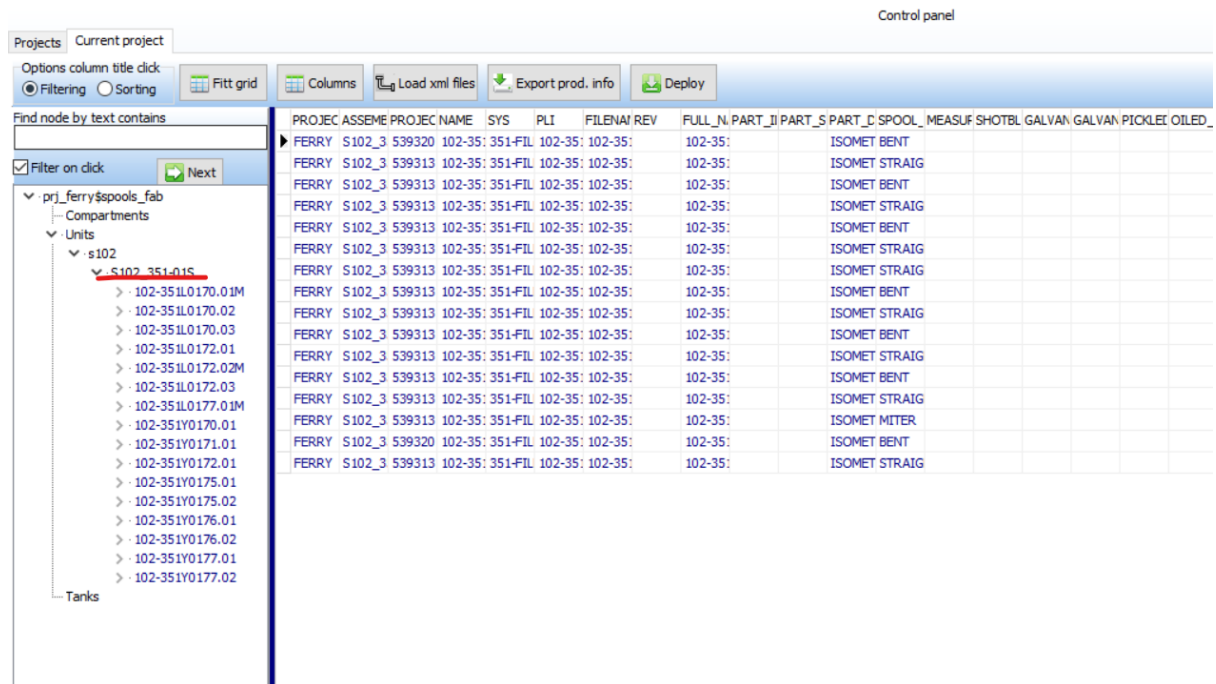


Mod de lucru interfata xml spool CADMATIC

Userul poate crea noduri in tree si cu drag and drop(Filter on click debifata) poate defini orice structura de ansambluri.

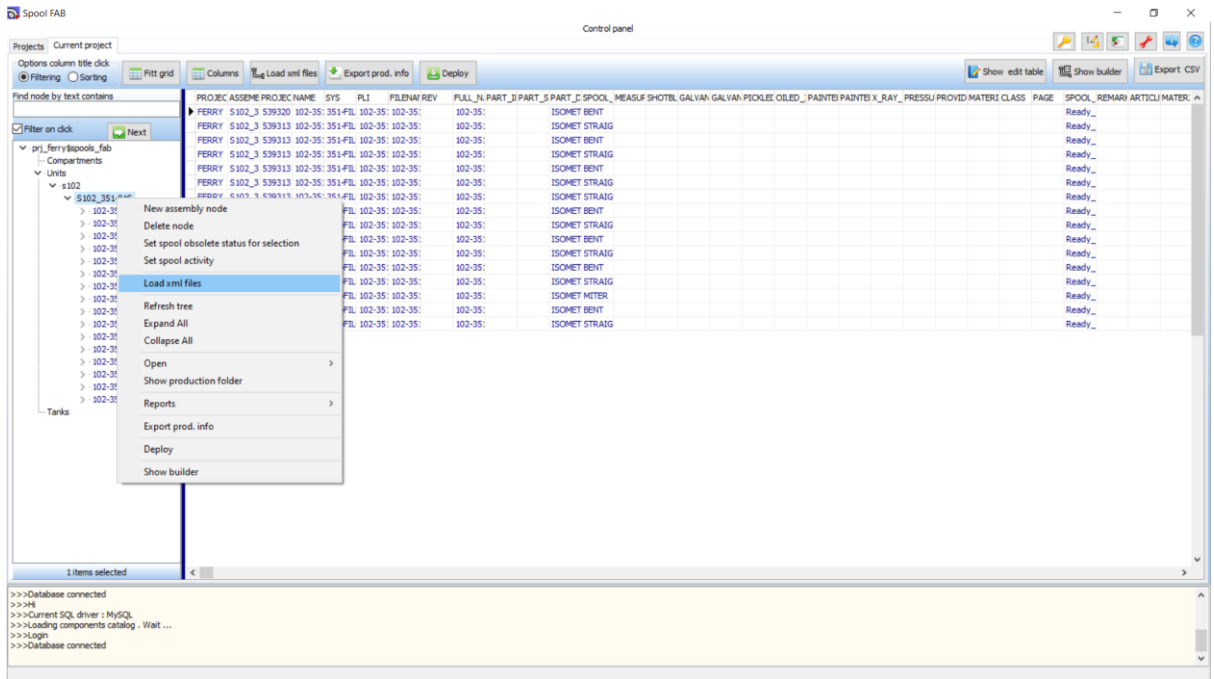
Ultimul nivel din ansambluri va descrie un album de tevi

Click pe el si daca optiune Filter on click este bifata in grid vor ramane doar lista de spooluir ce apartin acelu album

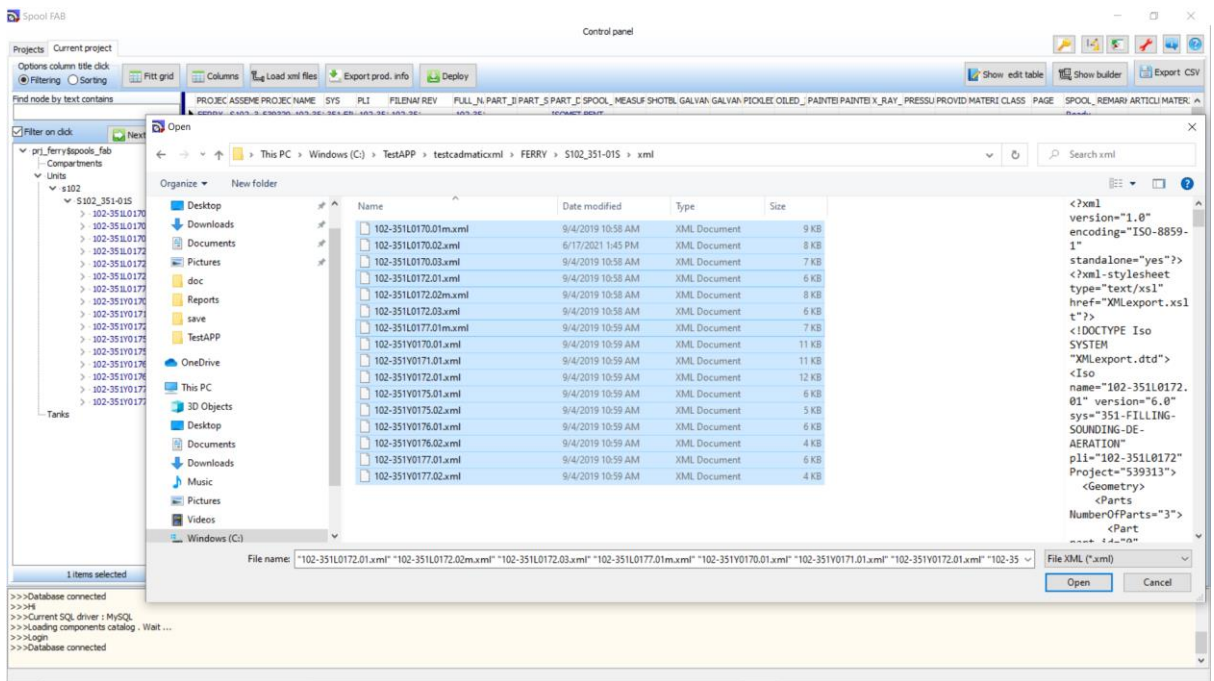


Pentru a crea un album din fisiere xml produse de Camatic se procedeaza in felul urmator:

- Se definește nodul care descrie albumul în locația Dorita
- Right click pe nodul album și se alege funcția Load xml files



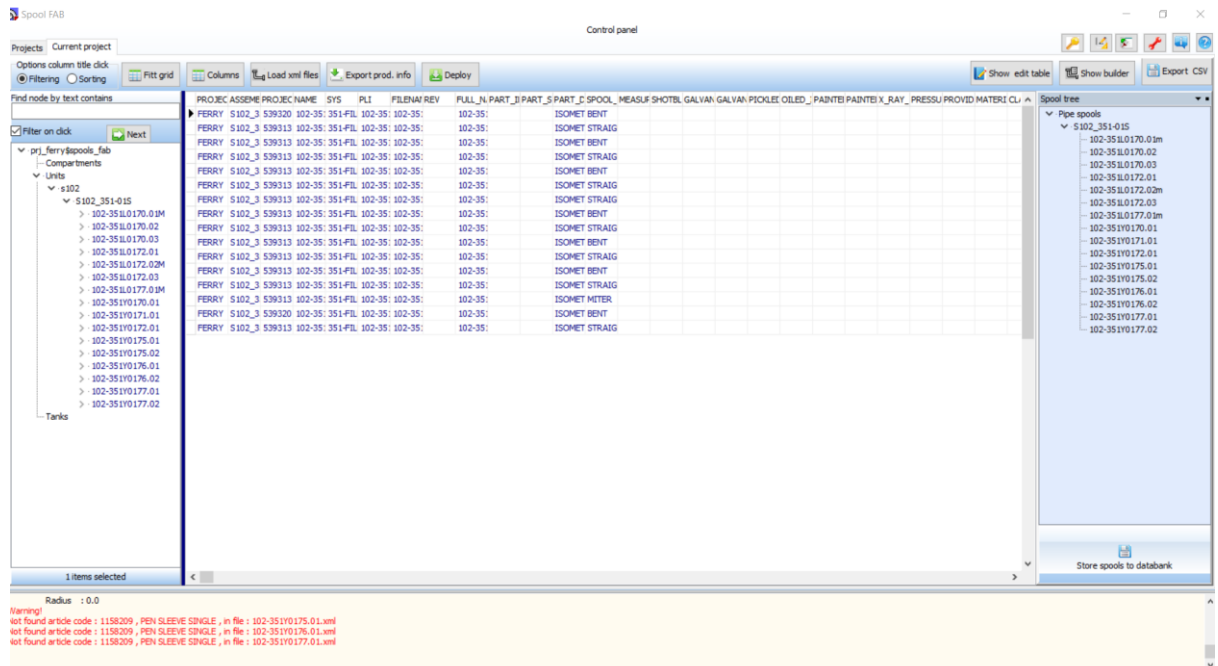
Si se alege fisierele care apartin acestui album curent



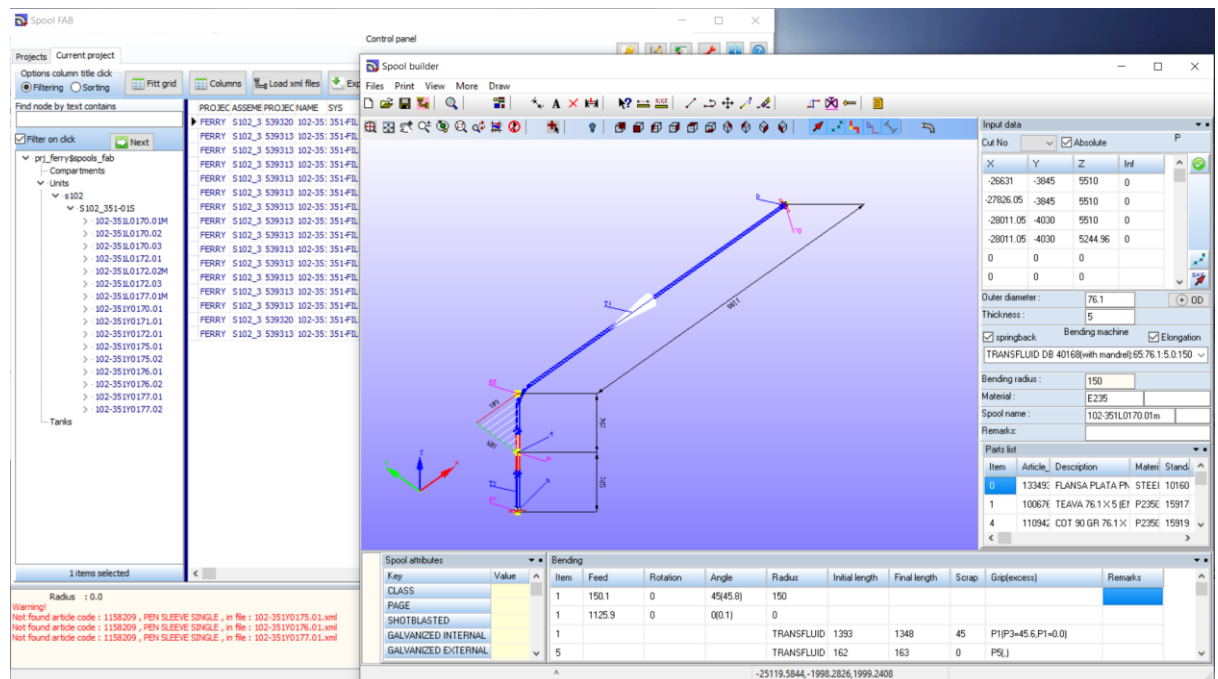
Aplicatia va procesa automat toate aceste fisiere si face urmatoarele actiuni :

- Extrage ruta pentru linie principala si ramificatii
- Asociaza si echivaleaza codurile de material pentru componente
- Asociaza si determina masinile de indoit si calculeaza parametrii de indoire extrage taieturile
- Determina vederea izometrica a spool-ului si asociaza cote, hasuri , etichete puncte definitie ruta

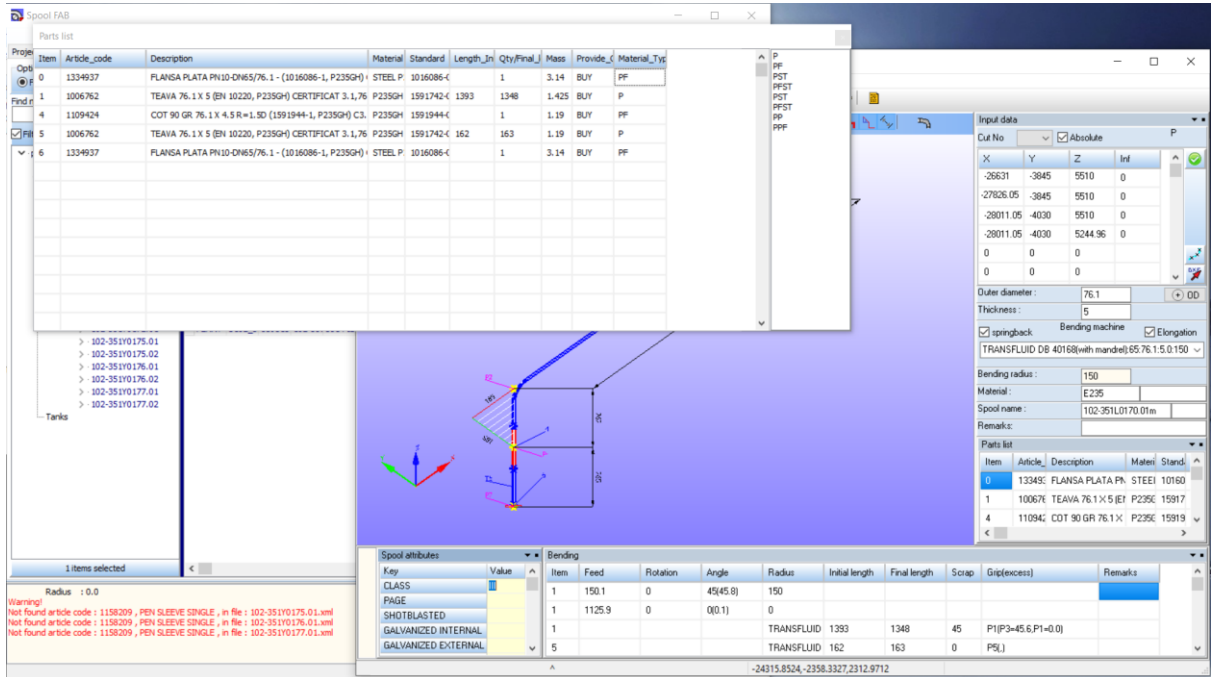
Dupa procesare spoolurile sunt afisate intr-un tree in partea dreapta a ferestri principale



Click pe oricare din spooluri si acestea vor fi afisate in SpoolBuilder

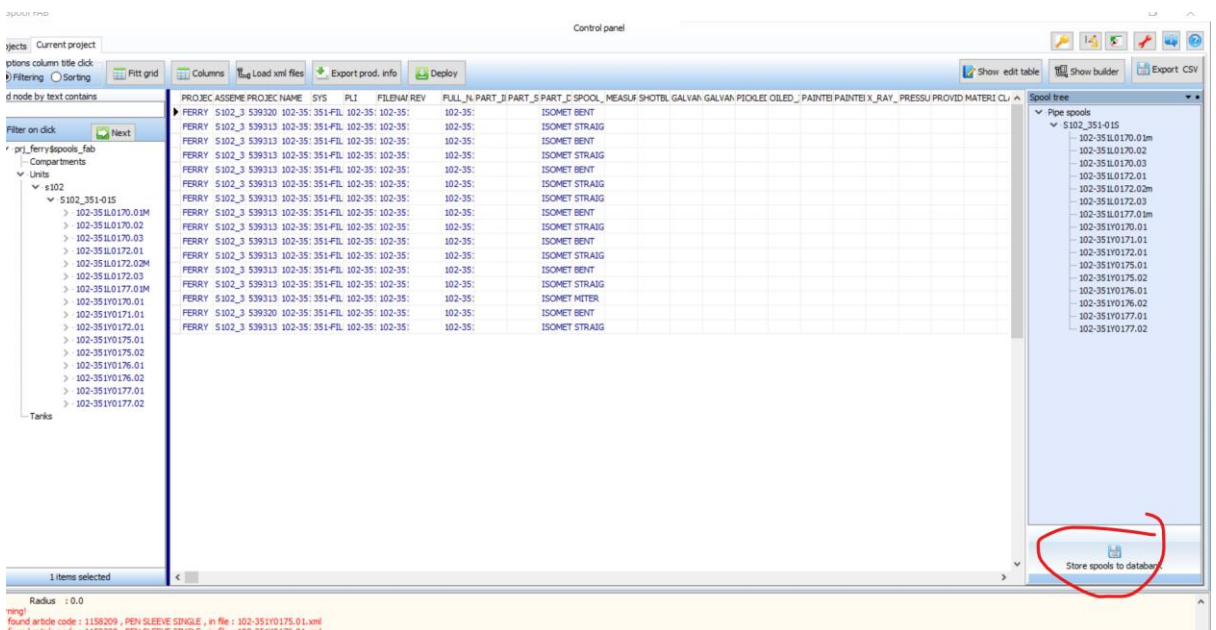


Userul poate defini restul de informatii necesare attribute ale spool , poate aranja etichetel interactiv cu mouse buton left

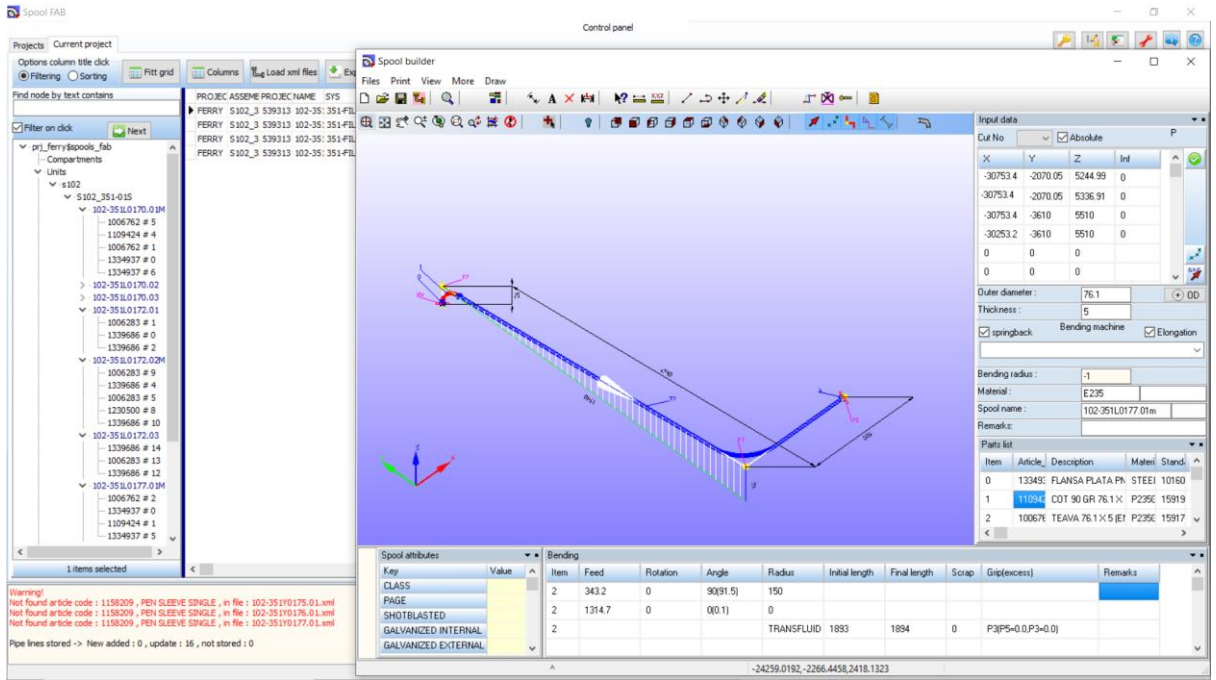


In spool builder userul poate modifica spool-ul dupa caz.

Dupa editarea spoolurilor la apasarea butonul "Store spool to databank", acestea vor fi stocate in baza de date

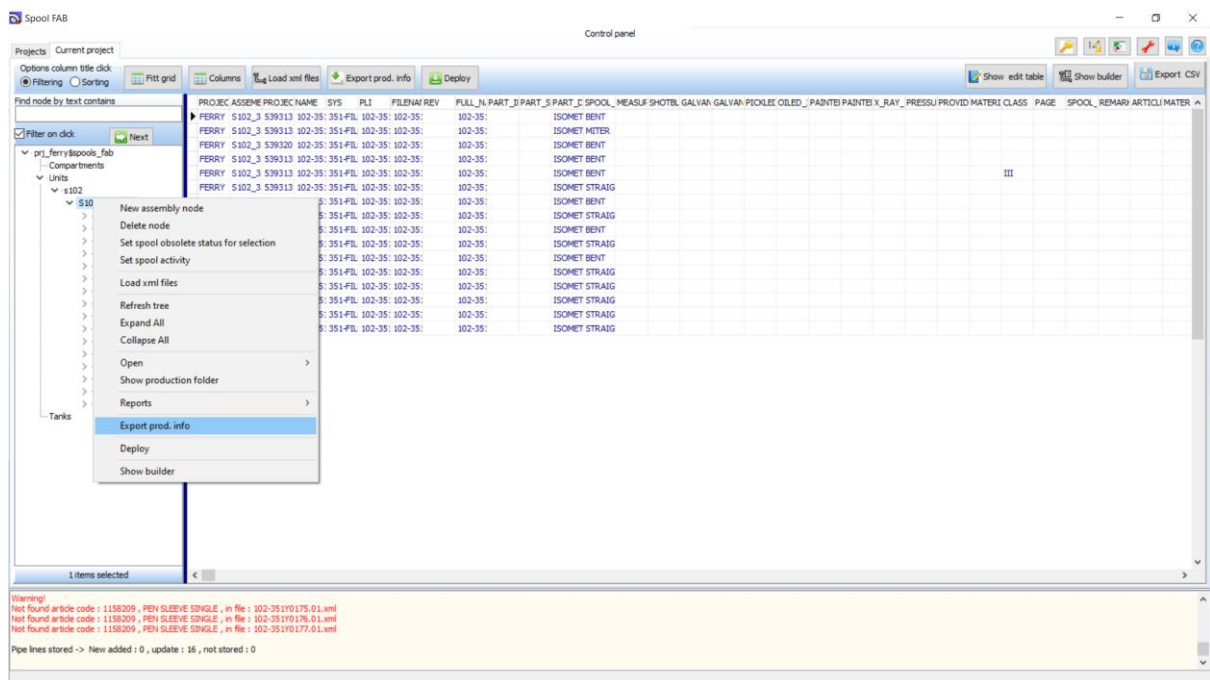


Aplicatia verifica daca spool-urile exista de ja in baza de date, si daca exista identic face overwrite, daca exista revizii vechi acestea vor deveni obsolete, iar noile revizii devin active. In tot timpul acestui proces de date aplicatia semnaleaza erori sau lipsa de informatii etc. Odata stocate in baza de date orice spool poate fi vazut in SpoolBuilder, daca in tree userul face dbclick pe numele spool.



Export Production Information

Pentru a export documentatie fabricarii spool userul selecteaza albumele , right click si alege functia Export prod. Info si aplicatia va genera automat schile izometrice, lista de materiale, lista de taieturi si lista de urmarie spool , fisier debitare robot HGG pentru fiecare album in parte

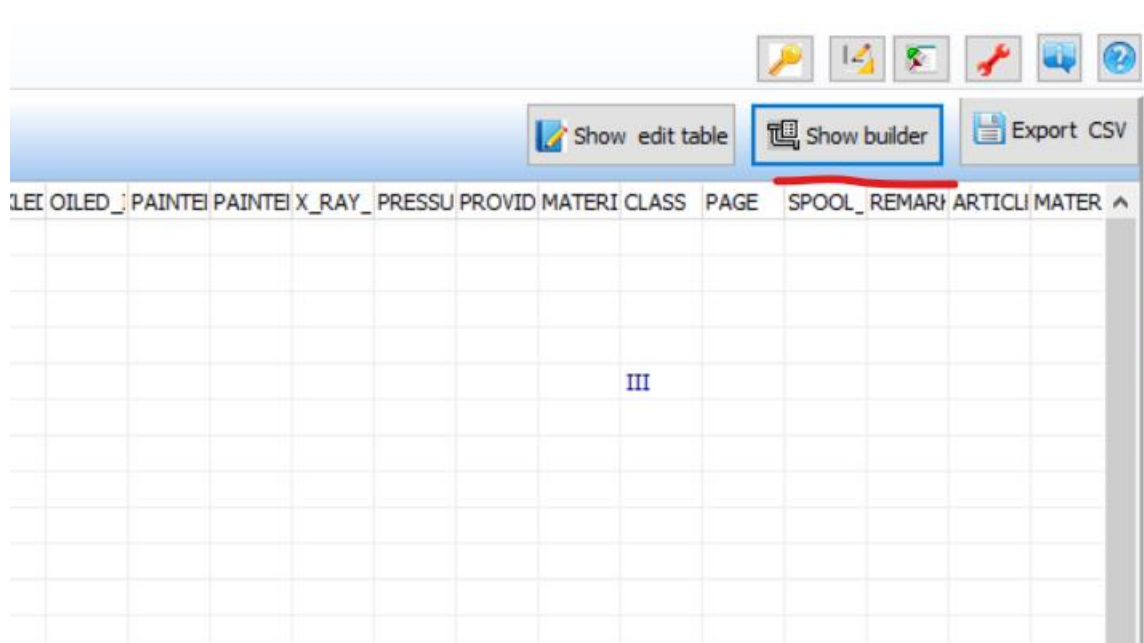


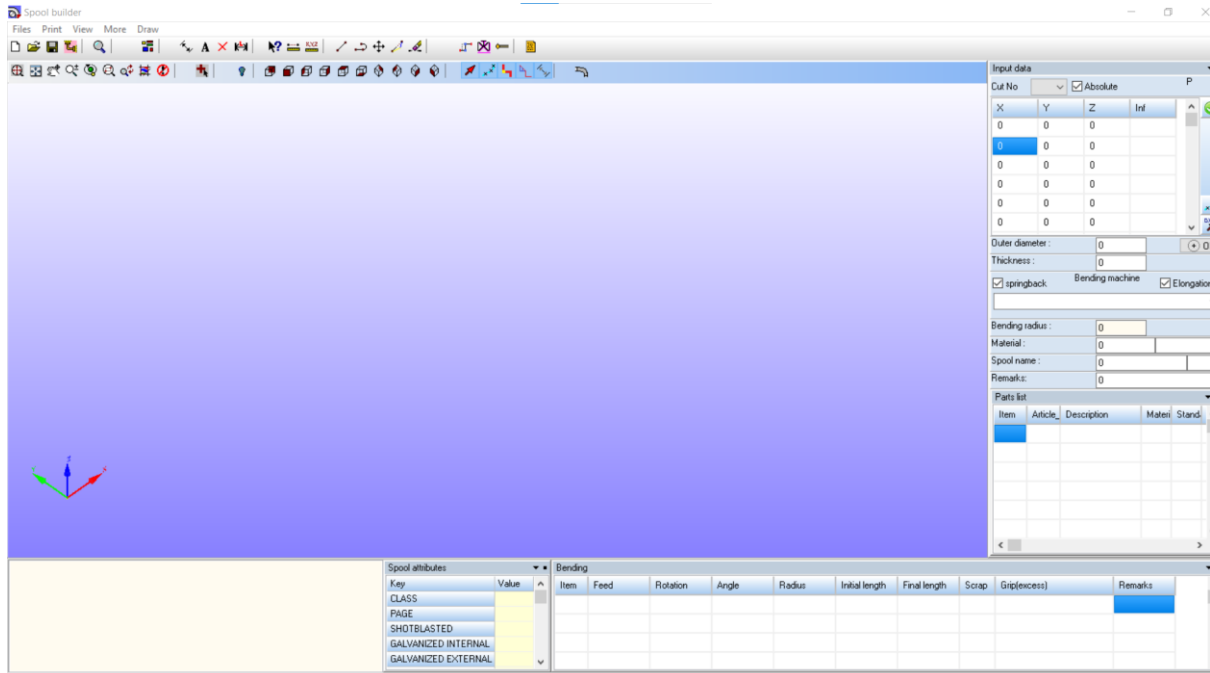
Urmatoarea actiune a userului este Deploy , care pentru o selectie de albume va schimba statusul curent al spool din baza de date in Ready_For_Production , devin vizibile pentru productie si de asemenea se poate transfera automat fisierele PROD_INFO catre o locatie server disponibila pentru productie.

Mod de lucru SpoolBuilder

SpoolBuilder permite definirea unui spool de catre userul curent si la final poate fi stocat in baza de date , urmand fluxul de mai sus.

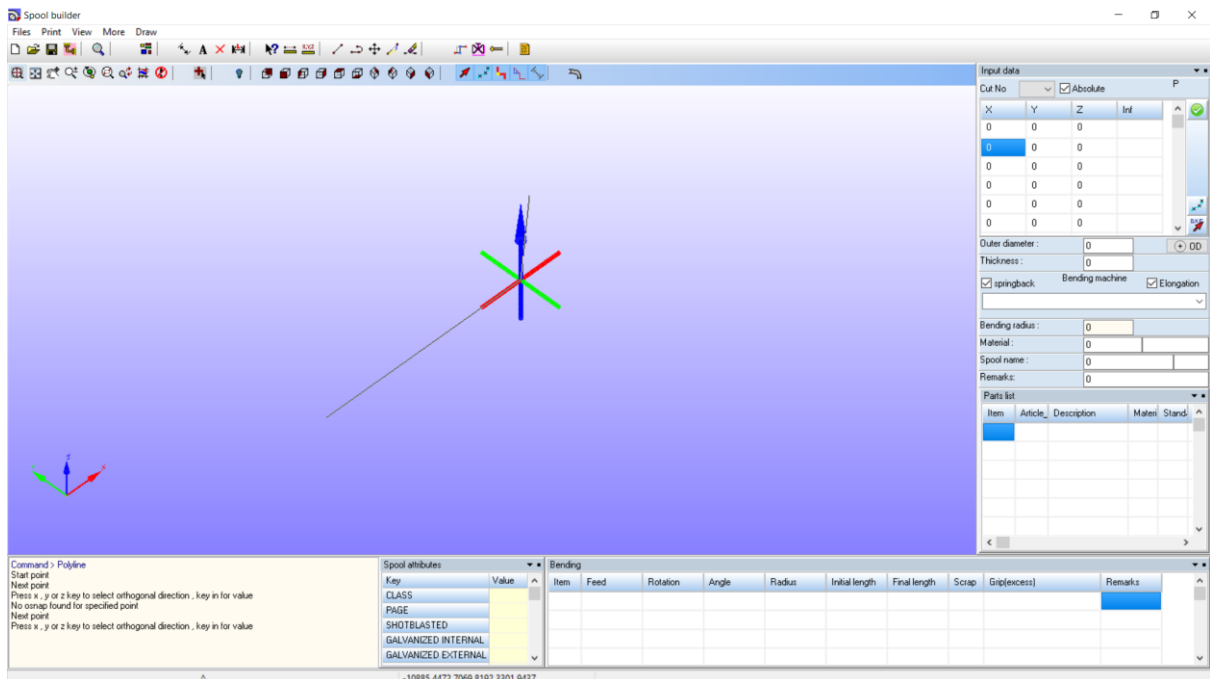
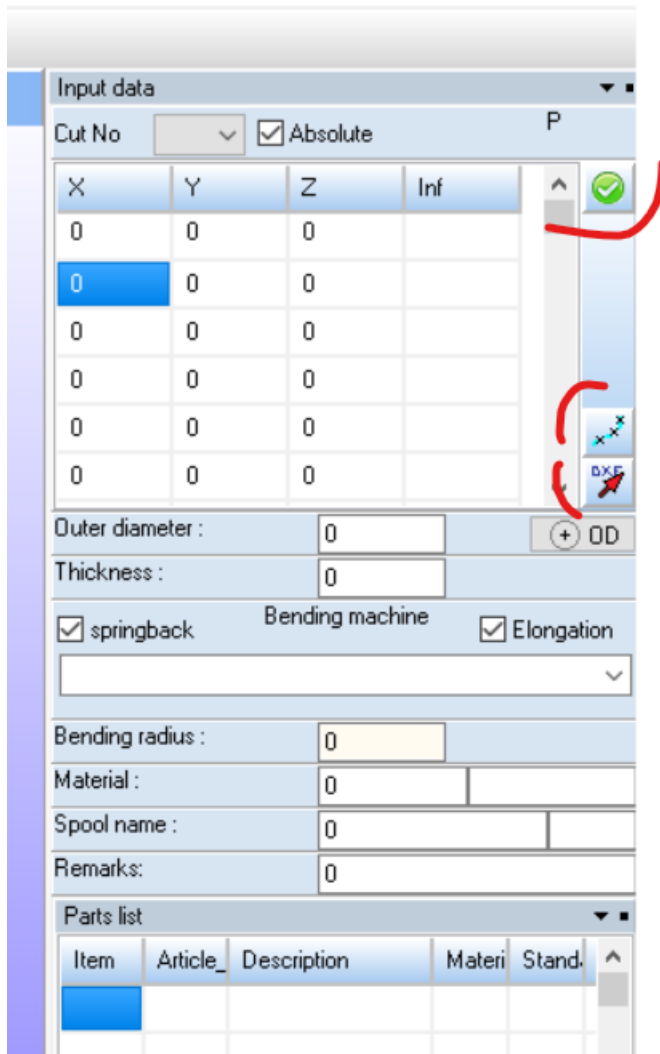
Apasa butonul Show builder

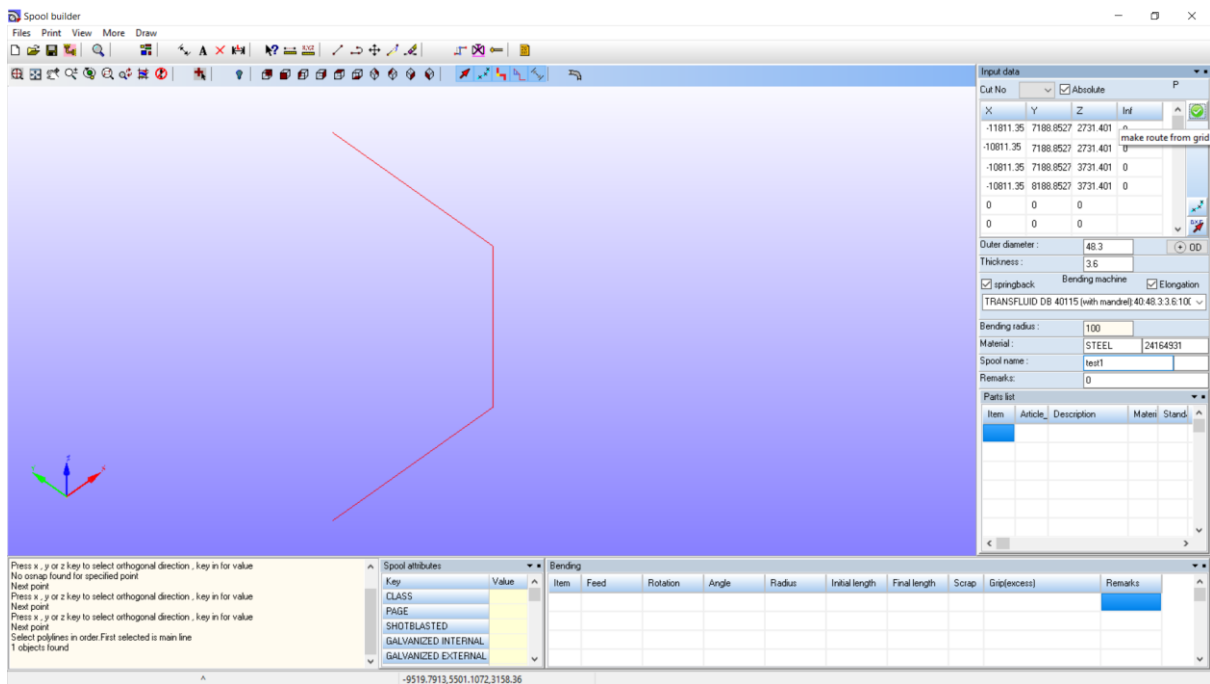
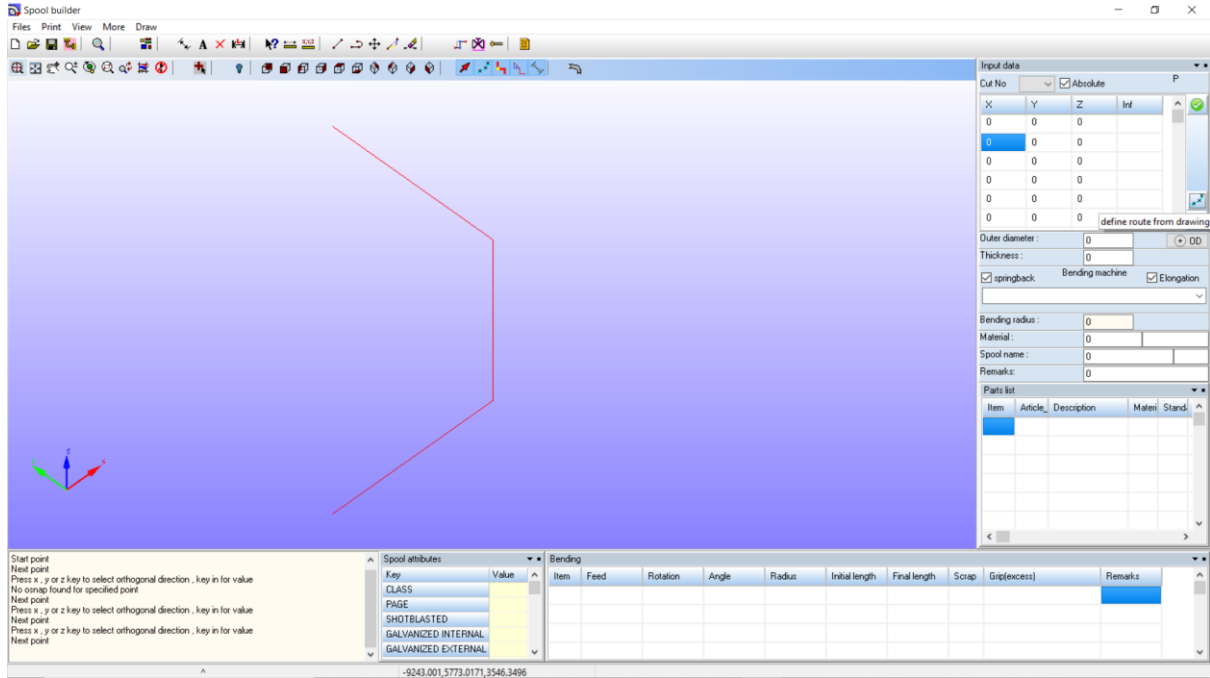


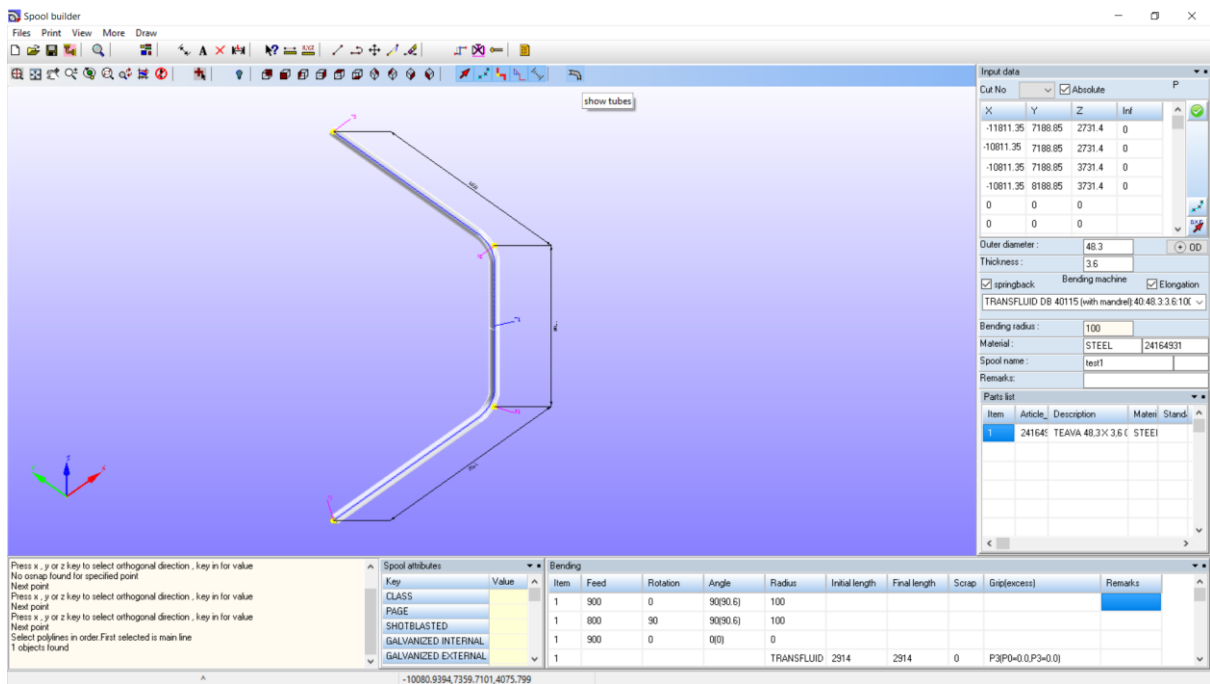
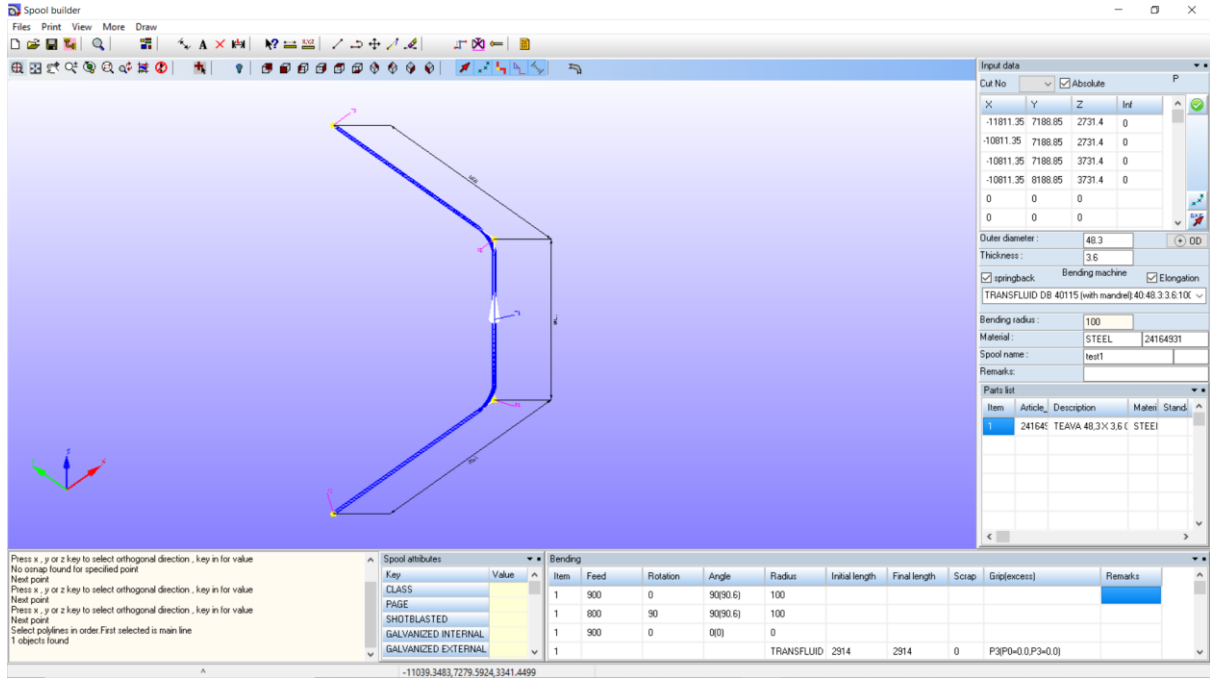


Userul poate defini ruta spool in mai multe moduri :

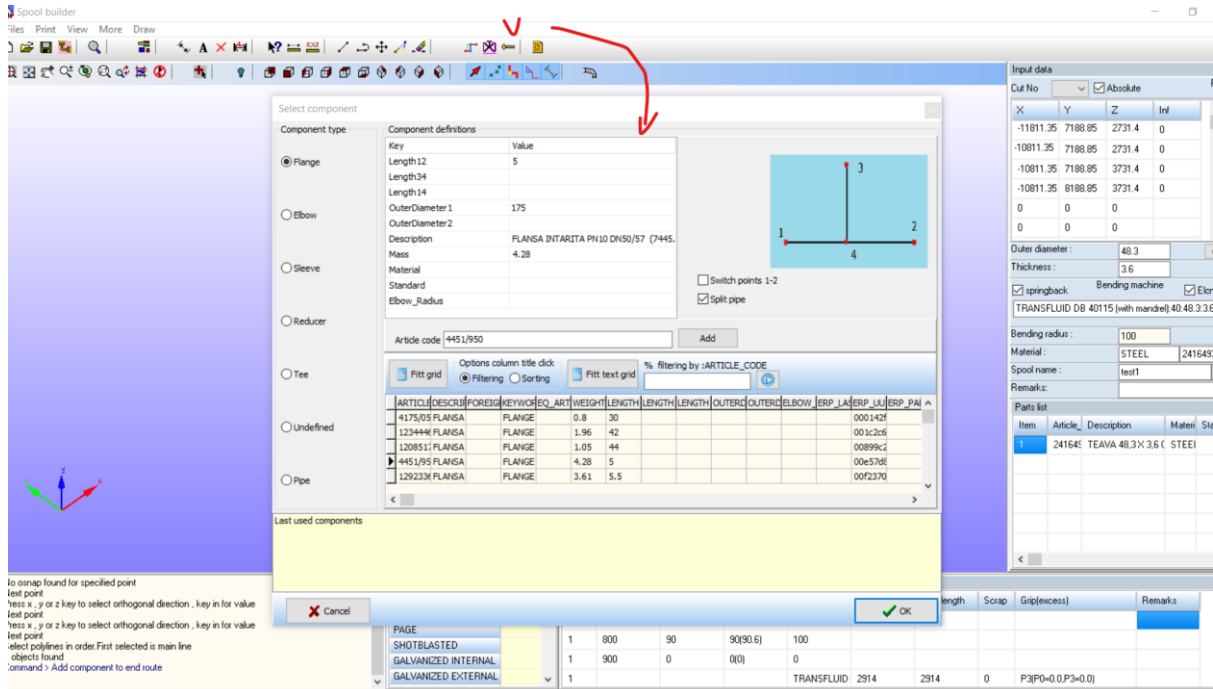
1. Din desen , deseneaza ruta ca o polilinie , ramificatii iar prin selectie aplicatia va extrage coordonatele , vezi meniu Draw
2. Se poate importa un fisier dxf cu polilinii 3d
3. Se definesc punctele rutei prin coordonate relative sau absolute



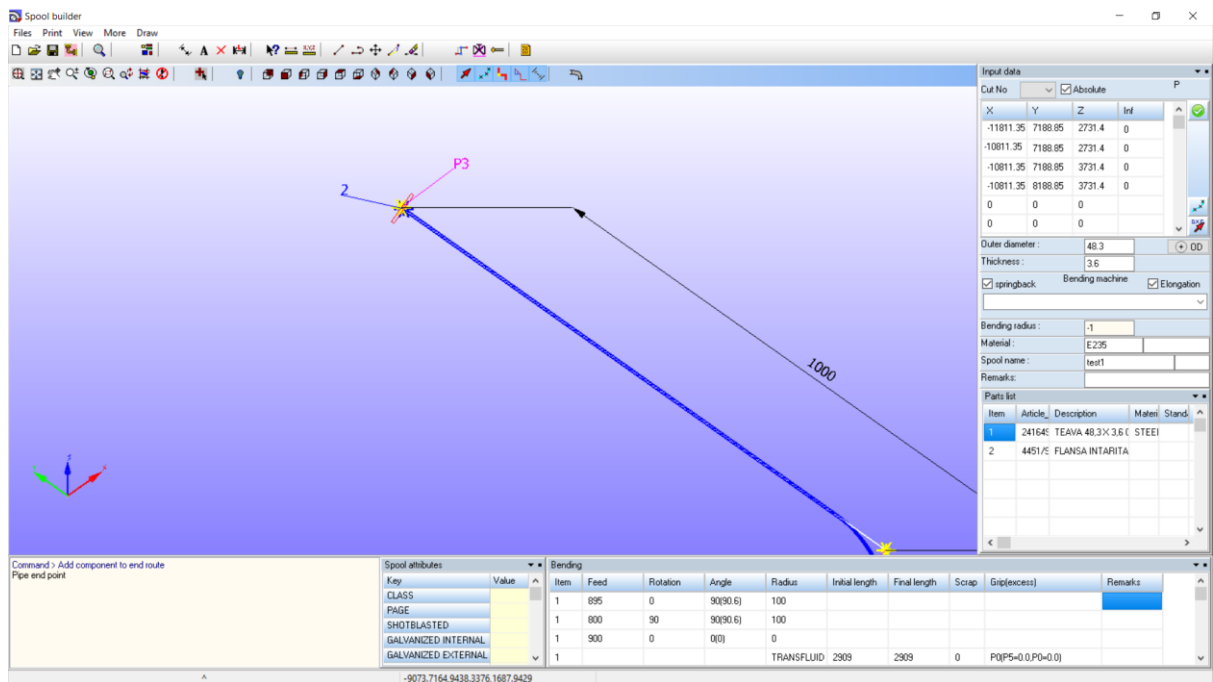




Adauga componente la capat sa insereaza

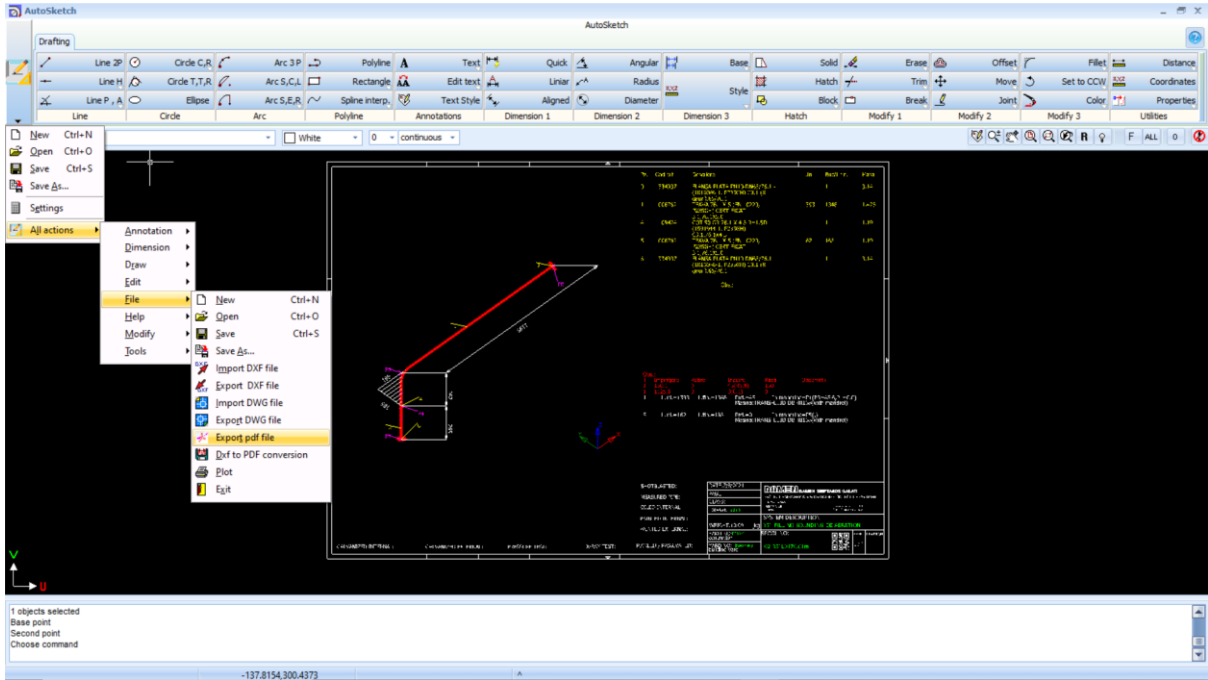


Flansa adugata la un capat

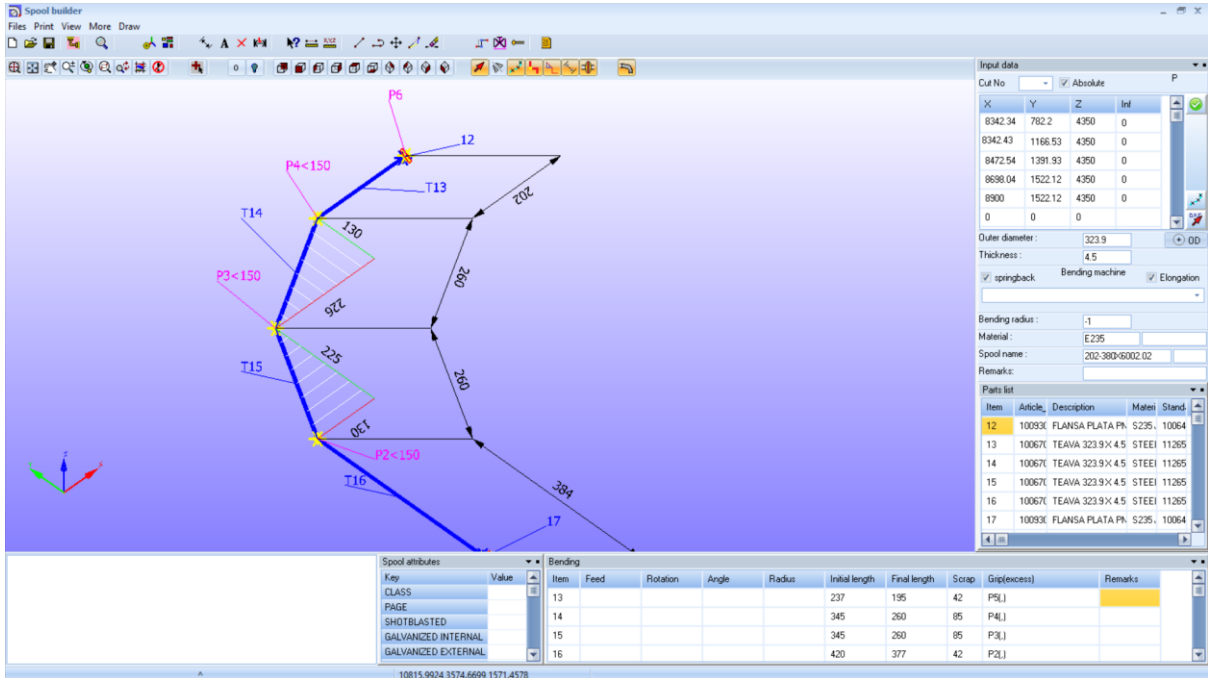


Observatie . Pentru definirea ramificatiilor acestea trebui sa inceapa din ruta principala.

Integrat in aplicatie exista si un modul AutoSketch pentru editare 2D , similar Autocad LT.

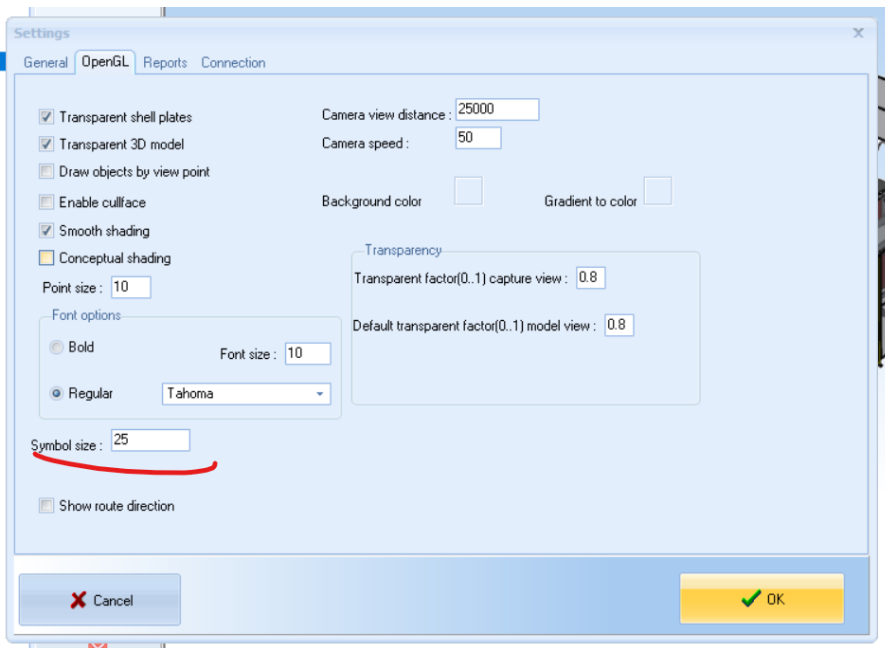
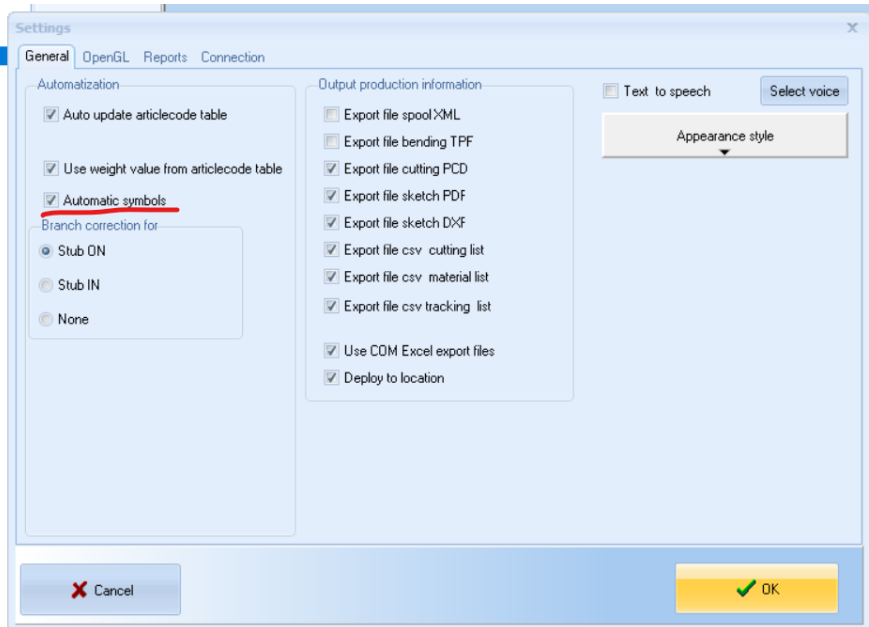


Miter , aplicatia arata si unghiul inclus dintre segmente



Simboluri in schita

Daca user-ul bifeaza Automatic symbols aplicatia va genera automat simboluri definite intern.



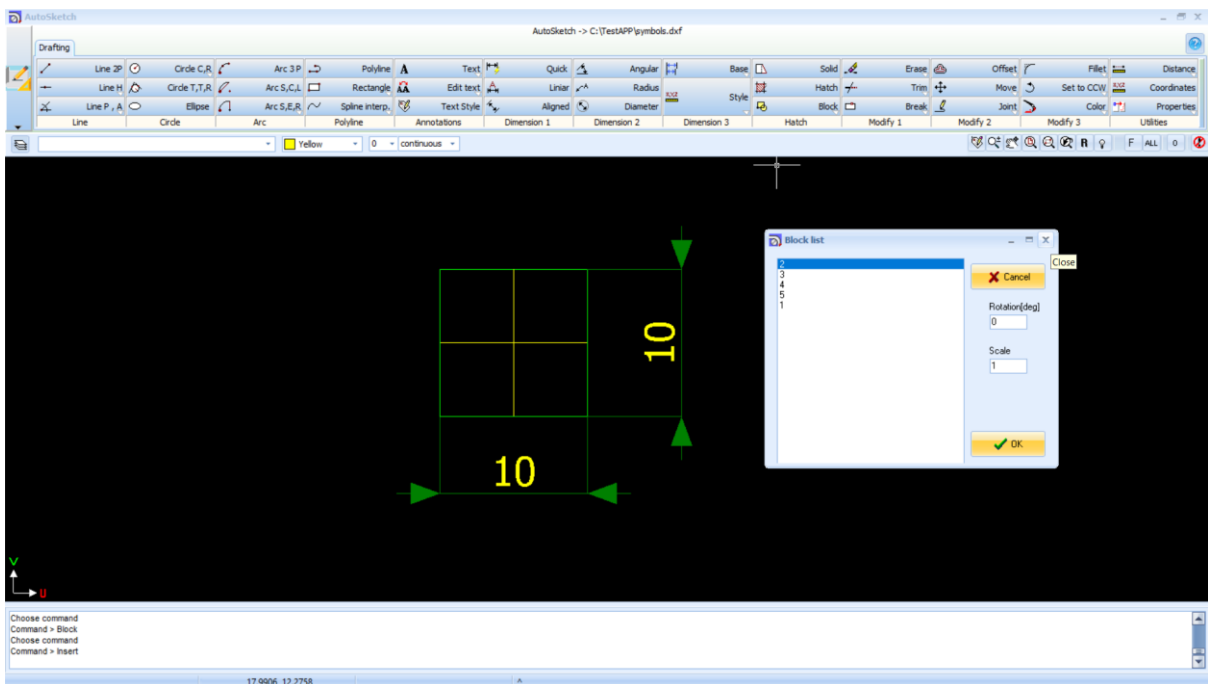
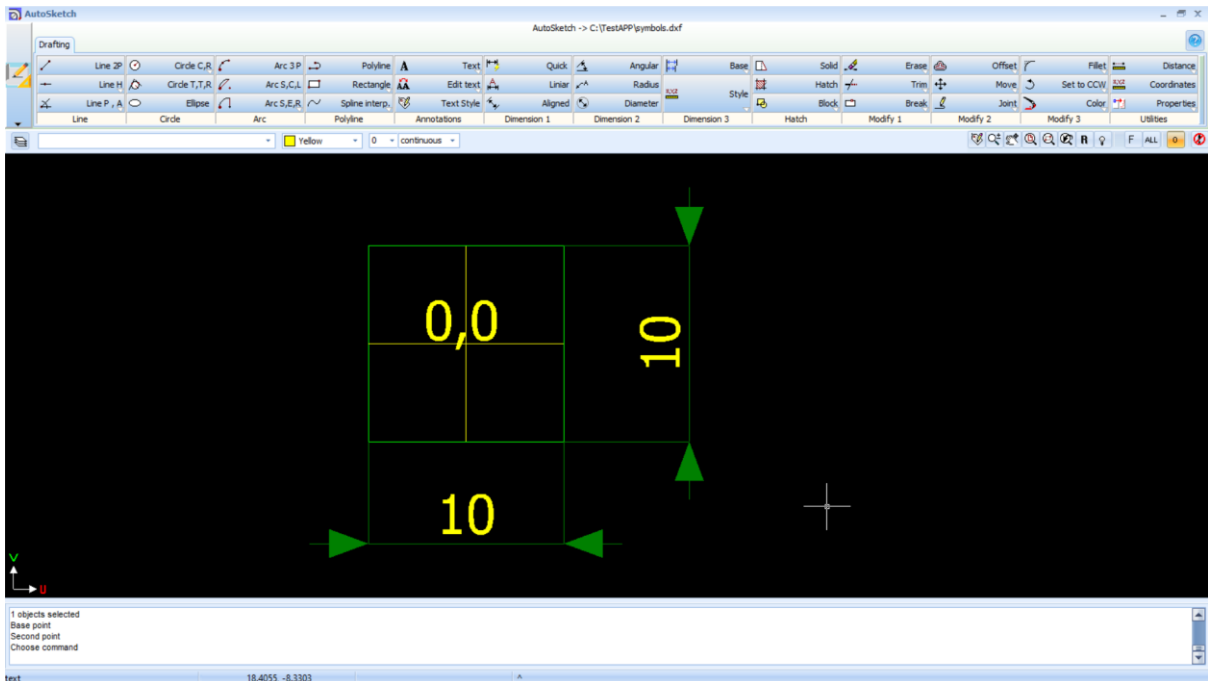
dimensiune simbol

Daca Automatic symbols nu este bifata atunci aplicatia va utiliza simbolurile define de user si stocate in fisierul dxf symbols.dxf

Un simbol este realizat in felul urmatoar :

Se deseneaza in 0,0 un patrat cu latura de 10mm , aceasta geometri va fi ca referinta zona de lucru pentru user . In acest patrat se neseneaza simbolul dorit , dupa care se salveaza ca block cu nume de symbol 1,2,3,4,5,... a.i fiecare block sa defineasca un symbol.

Aplicatia considera symbol doar linii,polilinii , restul de entitati geometrice nu vor fi citite la inserarea simbolurilor



Numerele simbolului trebuie adaugate in tabelul article_code pentru fiecare articol corespunzator.

Dialog box: Edit table

Buttons: Load CSV file, Fitt grid, Fitt text grid, Apply updates, Undo last change, Cancel updates, Export table to CSV

% filtering by :ARTICLE_CODE

ARTICI DESCRIPTION	FOREI	KEYWC	EQ_AR	WEIGH	LENGTI	LENGTI	LENGTI	OUTER	OUTER	ELBOW	STAND	MATER	SYMBOL
4451/2 MANSON 95 X8-150 (S355J2G3)		SLEEVE		2.575	10								
26462 TEU REDUS 273 X 8 /168 X 7		TEE		18.5									
28273 RACORD VRNW 13HS 3/8 ED MG				0.14									
26454 RACORD SANW 06 HL				0.043									
28267 RACORD VRNW 16HS MG				0.43									
14301 REDUCTIE CONC 60.33 X 2.77 / 42.1 4352A		REDUC		0.3	76								
4451/5 FLANSA INTARITA PN10 DN100/114.		FLANG		7.05	5								1
11073 FLANSA OARBA PN40 DN 32 (599900		FLANG		2.03	18								1
96414 COT LRS 90 GR 42,4 X 3,6 R 1,5D		ELBOW		0.26					48				
12137 TEAVA 15 X 2 (EN 10305 / DIN 2391, 1530/4		PIPE		0.641									
45707 GARNITURA INEL PN 16 DN 80(138X				0									
13096 TEAVA 38 X 5 (DIN EN 10216-5, INOX		PIPE		4.13									
26416 TEU REDUS 168 X 8 /114 X 6		TEE		14.1									
45708 SUPORT RI-CLAMP 6S PPR				0									
90882 SUPORT CU BRATARA GALVANIZATA				0									
12106 TEAVA 177.8 X 14.2 (EN 10210-2, S3 1423/1		PIPE		57.29									
26458 REDUCTIE CONCENTRICA 89 X 4,5 /		REDUC		0.7									
96412 RACORD GR28/18L71X (INOX-ART. 4: 4212/5				0.142									
6866/C MANSON 51 X 3.2, L=100 (6866.53-C		SLEEVE		0.34	5								
90882 SUPORT CU BRATARA NEAGRA 33,7				0									
12937 ADAPTOR brazing x male thr Od30x3, 6830/C				0.72									

Options column title click: Filtering Sorting

Buttons: Cancel, OK

La final fisierul symbols.dxf se incarca in tabel

Dialog box: AutoUpdate

ID	NAME	UPDATEPACKAGE
2	CuttingPipes.xlsx	(BLOB)
3	TrackingSpool.xlsx	(BLOB)
4	MaterialsList.xlsx	(BLOB)
5	symbols.dxf	(BLOB)

Buttons: Add update package file, Store file, Cancel, OK



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