SQL Intelligent

how to start...

SQL Intelligent is an application for swift and easy publication of SQL queries for an end user within a web environment.

It is necessary to follow rules and procedures mentioned in this manual when entering SQL and creating individual pages (modules).

SQL Intelligent makes it possible to produce a form, which has dynamic features at data generation and display.

Administrator rights are required for work under SQL Intelligent.

1. Creating Basic Entry Fields of a Form

You will produce a form (module) generated by a standard basic SQL query in this part of application. By such form you create reports from a database, to which the form is linked.

Click on *"Administration of User Reports"* in the "*Administration*" section, see fig. no.1. Enter future name of a page in the form, field "**Page**" and "**Page Description**". The text in field "**Page Description**" is shown in the heading of a form (module) and the text in field "**Page**" is shown in the main menu. Further, it is necessary to set a database instance, if more of them are defined, see fig.No.2.

	1.8.110
Uživatel : ADMIN	
Administrace	
🗘 Administrace	
🗘 Administrace uživatele	
Administrace organizací	
🗘 Definice skupin	
Definice transakcí	
🗘 Rozpočty - Definice plánu	
Rozpočty - Administrace uživatele	
🗘 Rozpočty - Uživatelský monitor	
Administrace uživatelských reportů	
🗘 Statistiky logů	
Posledních deset dotazů	

Uživatel : Stránka ukaz	ující položky na s	kladu 🚽 🚮
Položka	Popis	Stav
E%123%		
	Hladat	Enders Mallas #

A text field for entering the basic SQL query is shown upon a click in the field below the line. SQL Intelligent provides some processes automatically and that is why it is necessary to adhere to essential procedures.

a. The first column should be a unique line index. The program will try to prepare summing according to it later on, it will make graphic jumps.

b. Each column should have its own unique alias, sorting will be done according to it. If two similar ones are

|| 👬 || Administrace uživatelských reportů Stránka Popis stránky Instance Vše Hledat Popis stránky Vložit Sklady Stránka ukazující položky na skladu ATTEYADB elect nsi.inventory_item_id pol_id msi.segment1 polozka msi.description popis_pol msi.neenton...tom.etatuo msi.inventory_item_status_code pol_status msi.item_type pol_typ from MTL_SYSTEM_ITEMS ms nere msi.organization_id = &ORG_ID : výpisu -> 0 záznamů nalezei

Fig . No. 2

defined, an error will occur in the resulting SQL query.

c. It is possible to use variables & *ORG_ID* and & *SOB_ID* in a report, which applies **only** to an installation with **Oracle E-Business Suite**, that mean organizations or sets of ledgers from the basic combo-box. These combo-boxes will be displayed only if the variable is used.

d. All tables should be used with the APPS prefix, e.g. APPS.MTL_SYSTEM_ITEMS. They can function even without it, but only in case that ApplStream[®] uses directly the APPS database user for connecting to the database (applies to *Oracle E-Business Suite*).

Within the given example (Fig.No.2) we define page "Inventory" and we start with the basic SQL only for an item. All, what we enter now, will be a minimum of what will be visible on the page.

We have used the &ORG_ID parameter and so a combo-box for organizations has been also added to the resulting form.

A report is created upon pressing the "Enter" key.

It is in the "Correction" state now and all entered parameters can be modified fig. No. 3.



- Page
- Page Description
- Instance
- Basic SQL

This can be done after a change by the "Correction" key on the left side in the form. Figure no. 3 shows all parameters, which will create columns in the report.

We enter a description with which we want to denominate the column in the report into the white field. For saving, it is necessary to push the "Correction" key on the right below the listing of parameters.

	Α	В	С	D
Column "A" is the SQL identification of a parameter	POL_ID	NUMBER		POL_ID
Column "B" is the type of a parameter	POLOZKA	VARCHAR2	V	Položka
Column "C" the visibility of a column in a report	POPIS_POL	VARCHAR2	☑	Popis
Column "D" the denomination of column in a report	POL_STATUS	VARCHAR2	☑	Stav
	POL_TYP	VARCHAR2	V	Тур
		Op	orava	1

If you entered a unique line index, then it is appropriate to make it invisible by scratching it out from the list (e.g. POL_ID). This way you can make invisible any number of future columns in a listing. Only the first of them will be used for summing the report.

	# Stránka	Popis stránky	Instance	Parametry
Oprava	Sklady	Stránka ukazující položky na skladu	ATTEYADB -	0
select msi.inventory_ite	m_id pol_id			* *
⋟⋗⋛⋒⋚	1 Sklady	Stránka ukazující položky na sklad	du ATTEYADB	0
	Kor	nec winicu > 1 záznamů nalezeno		

Upon clicking the "Correction" key it is necessary to check whether all parameters were downloaded correctly.

Click the page denomination ("Inventory" in our case) in the created form, see fig. 4.



The newly created form provides standard possibilities and functions for data searching now, the same way as the ApplStream[®] application.

Uživatel : Stránka ul	kazující p	oložky	na skladu		1 🗔 🔀 🔁			
Položka		Popis		Stav	Тур	C Datumový rozsah		
E%123%			_			Typ rozsahu	Administra	се изглателькуст терони
		Hledat	* Extra V	'olba *	▼ ATT ▼	19.12.2010		•
E%123%								
Položka	Popis	Stav	Тур					
ELC10D123E	COIL	Active	P					
ELC18B123L	COIL	Active	P					
ERJ2GEJ123X	*	Active	P					
Konec výpisu ->	3 zázna	mů nal	ezeno					

The application administrator has a possibility to click the orange link, which brings him directly to the page administration without the need to click through the Menu all the time.

Section "**Reports**" is created in the Menu, where a reference to the new page is shown, "**Inventory**" in our case. There is an icon in front of the page name, which symbolizes user developed pages. Access rights to individual pages are assigned under the "**User Administration**".

Uživatel : ADMIN	
Reporty	
2 Sklady	
Administrace	
🗘 Administrace	
🗘 Administrace uživatele	
🗘 Administrace organizací	
🗘 Definice skupin	
Definice transakcí	

2. Adding Dynamic Features to the Report

This part of the application gives you the possibility to improve the functionality of the basic SQL by **dynamic elements.** The form acquires a new freely definable dynamic field, by which you can modify display of the report. This feature is unique for the **DNA Technology** and is used by all products of ATTEYA Group.

We have got our own defined first page "**Inventory**", which has a basic field in "**User Report Administration**". Now, we will expand the page by a dynamic SQL feature.



We will add new features to SQL with the help of this function. These features are activated by a user on the form page in a standard way. **b.** Fourth icon, the Dynamic Field definition.



c. Fifth icon, the Link conditions definition.

A dynamic field makes it possible to add other fields/columns, which are not present in the basic SQL. This way the output of the report can be extended or its features modified. In such case it is necessary to use predefined SQL genomes (point a.), and even conditions (point c.) in some cases.

Conditions of a link make it possible to define cases when a specific genome is to be activated in the case of activation of the search field.

a. The Definition of a Genome

For the definition of a new dynamic genome it is necessary to enter a "Denomination" and a "Description".

The genome is transferred to the correction mode upon clicking the "Enter" key. It is possible to enter tables and links here, see fig. No. 5.



Fig. No. 6



The key "Correct" enters new features.

SQL Intelligent assigns newly defined features to the original SQL query and executes a check whether it is in order. In our case the check was performed without a problem, see fig. No. 6. It is necessary to adhere to bracket conventions when creating embedded selects. It can happen that the query is not correct in the case of higher number of mutually linked genomes. In such case it would not be a critical problem.

In our example we add a table of Inventories and values of quantities inventories. Further we define the first and the last transaction per an item.



By this we have prepared new features, which can be used in the "**Dynamic Field Definition**" function.

b. The Definition of a Dynamic Field



It is possible to specify whether columns will be displayed in front of columns of the basic SQL or after them in the "Position" column.

	Jméno	Popis	Proměnná	Umístění					Políčka		_			
Oprava	Sklad	Sklad	S_SKLAD	Po 🔻	, mo	oq.inventory_item_i	idimoq.subinventory_	code prev	_idx		*			
× 🧷	Sklad	Sklad	S_SKLAD	Po	, sum(moq.transaction_quantity) tempsum									
	ł	(onec výpisu -> 1 záznamů nalezeno	<u> </u>	Ι,		No. 10								
					1						-			
						-			Genomy					
			- r -			Bez podmínky	 Sklad 	SQL de	finující sklad					
						Bez podmínky 🕙	 Transakce 	SQL de	funující první a pos	lední transakce				
									Oprava					
A 4: - I	al fi <mark>llar canada a</mark>							III SQL o	query je v pořádku !					
ATIE	a "inventor	y is defined in the exa	mpie.			PREV_IDX	VARCHAR2		PREV_	IDX				
It is a	lso denom	inated this way and the) variat	ole		SKLAD	VARCHAR2		Sklad					
in HT	ML is nam	ed S INVENTORY			3	TEMPSUM	NUMBER		TEMPS	SUM				
Furth The sumn The inven The inven	er, three co first colu ning in a re second co tory. third colum tory.	olumns are inserted. mn PREV_IDX is report. column is the name	eady f of th cy of th	or he he	sele msi , m , m , m , m , m , m , m , su fron , M grou	ect i inventory_item, isi.segment1 po isi.description pu isi.inventory_iter isi.inventory_iter isi.inventory_iter isi.item_type po og.subinventory_or um(moq.transac m.MTL_SYSTED iog.subinventory_or ere msi.organizati up by m.i.inventory_ ve, mo	_id pol_id lozka opis_pol m_idlung_code po Liyp m_idlung, subinve v_code sklad tion_quantity) tem M_ITEMS msi uZANTITES moq ation_id = &ORG_i tem_id = &ORG_i tem_id = moq inve n_id = moq organ tory_item_id, msi q_inventory_item_i	I_status entory_ci npsum ID entory_it nization_ id moq.s	ode prev_idx em_id (+) id (+) 1. msi description, ubinventory_code,	, msi.inventory_itern_status_ moq.subinventory_code	_code,			

Please notice, at our exemplary SQL, that the **GROUP** BY clause was automatically added at the bottom. GROUP BY is added because **SQL Intelligent recognized the SUM() function**, which requires this.

For majority of added fields it is necessary to tick off genomes, which will be incorporated into the original SQL. In our example a genome is added, which we have named "Inventory" and it has no condition. If the SQL is in order, a list of found parameters ... new columns accordingly will be shown. We will leave ticked those, which we want to see in the listing and we will overwrite their denomination. This denomination will be the one, which will be show in the listing on a page. One field can thus activate display of any number of columns. We can test the new field "Inventory" immediately after the definition, see fig. No. 13.

Uživatel :	100	avere a	Company.	1.11000	in and						
Stránka	ukazu	ijící po	oložk	y na skla	du 🔃				<u>\$</u> ₹∕	-	
Položka		P	opis		Stav		Тур		Sklad		🗖 Datumový rozsah
AN15%				%						Typ rozsahu 🔫	
					Hledat	* Extra	Volba*	-	- ATT	-	19.12.2010 🗎 📋
						EAUG	VOIDE				
Položka	Popis	Stav	Тур	Sklad							
AN15861A-VT	I.C.	Active	Ρ	TP3							
				TP7							
				WH 11							
AN15862A-VT	*	Active	Ρ	WH 14							
				WH 11							
AN15866A-VT	I.C.	Active	Р	WH 11							
				TP7							
3				TP3							
AN15867A-VT	*	Active	Ρ	WH 14							
Konec výpisu	-> 9 z	áznam	nů na	alezeno							

<u>STEP 2</u>



We add only one column to the text field for columns, namely the summary of transaction quantity. Again, we activate the previously defined genome "**Inventory**" and we select "Without condition". We rename the column to "**Quantity Inventory**" after the approval of the SQL.

Additional combinations with the "Quantity Inventory" entry field are now available within the form on the page

Uživatel : Strán ka	ukazı	ijící po	oloži	ky na sk	ladu		*		B		Trx+Info	Nákupní př AP	Faktur			
Položka		P	opis		Stav			Тур		Sklad		Skladem				
AN15%										%	9	%				
Administrace		telský	ch ri	eportů				Hledat	*E	xtra Volba *		▼ ATT	•			
Položka	Popis	Stav	Ту	Sklad	Skladem											
AN15861A-VT	I.C.	Active	Ρ	TP3	1080						11		EΣ		T NIL I	- Lange La
				TP7	1000	ıka	zující p	oložky	na sk	dadu					nto [] Nakuphi pr	II AP Faktu
				WH 11	-1000			Popis		Stav		Тур		Sklad	Sklad	lem
AN15862A-VT	*	Active	Ρ	WH 14	40492										%	
	2			WH 11	40000							L.U				
AN15866A-VT	I.C.	Active	Ρ	WH 11	-800	121	vatelsky	/ch repo	onu			Fieda	t	Extra Volba*		ATT 🔻
				TP7	4923	-	Donie	Stav	Tun	Skladom						
				TP3	8579		Fopis	Active	ТУР	Skiadelli 1000						
AN15867A-VT	*	Active	Ρ	WH 14	37792		1.0.	Active	P	1060						
Konec výpisu	-> 9 z	áznan	1ú n	alezeno	132066		×	Active	Р	80492						
-					OH-VI		I.C.	Active	Ρ	12702						
					7A-VT		*	Active	Ρ	37792						
					výpisu	-> 4	l zázna	mů nale	ezend	132066						

<u>STEP 3</u>

As a next function we will create a display of the first and the last transaction.

		Jméno	Popis	Proměnná	Umístě	ní			P	olíčka						
O	orava	Transakce	První a poslední transakce	S_TRX	Po 👻		, mtx.trx_item_id, mtx.organization_	id , mtx.first_c	late, mb	.last_dat	e	*				
×)	Sklad	Sklad	S_SKLAD	Po											
×)	Skladem	Skladem	S_SKLADEN	1 Po											
×	1	Transakce	První a poslední transakce	S_TRX	Po											
			Konec výpisu -> 3 záznamů nalezeno						Ge	enomv						
							Bez podmínky - Sklad	SQL	definu	uicí skla	ad					
							☑ Bez podmínky ▼ Transak	ce SQL	defun	ující prv	ní a poslední transakce					
									C	prava						
								III SC	IL quer	y je v po	ořádku !!!					
							TRX_ITEM_ID	NUMBER		Ĉ	TRX_ITEM_ID					
							ORGANIZATION_ID	NUMBER			ORGANIZATION_ID					
							FIRST_DATE	DATE	V		První datum					
							LAST_DATE	DATE	V	-	Poslední datum					
۱ د	Ve lyn	repeat pr amic field	evious steps in definiti	on of a			select msi.inventory_item_id pol_id , msi.segment1 polozka , msi.description popis_pol , msi.inventory item_status , msi.tem_type pol_typ , mtx.ttx_item_id, mtx.organis from MTL_SYSTEM_ITEMS r , (select mtxd.inventory_item , max(mtxd transaction_date) from apps MTL_MATERIAL_T group by mtxd.inventory_item where msi.organization_id = t and msi.organization_id = mt	code pol_sta zation_id , m msi i_id trx_item first_date last_date RANSACTIC _id, mtxd.or &ORG_ID mtx.trx_item x.organizatic	tus itx.first _id, mt DNS m ganiza _id (+) in id (+	_date, r xd.orga txd tion_id) +)	ntx.last_date nization_id) mtx					

As none of displayed columns is either a number or a string, no entry field of the form is created but a check box. Both dates are automatically shown also in a combo-box "Type of Range" and it is possible to search according to them.

Uživatel :	200	916 - 225	-	2.16					1			
Stránka	ukazu	ijící po	ložk	y na sk	ladu			≥ " ≰∠	1			
Položka		P	opis		Stav		Тур	Skla	d Skla	adem	Transakce	– Datumový rozsah
AN15%							9	6	%			Typ rozsahu 🗾
Adn								Hledat	* Extra Volba *	•	.)	Typ rozsahu První datum První datum
Položka	Popis	Stav	Тур	Sklad	Skladem	První datum	Poslední dati	um				Posledni datum
AN15861A-VT	I.C.	Active	Ρ	TP7	1000	06.06.2006	07.06.2006					
				WH 11	-1000							
1				TP3	1080							
AN15862A-VT	*	Active	Ρ	WH 14	40492	06.06.2006	06.06.2006					
				WH 11	40000							
AN15866A-VT	I.C.	Active	Р	WH 11	-800	06.06.2006	07.06.2006					
				TP3	8579							
				TP7	4923							
AN15867A-VT	*	Active	Ρ	WH 14	37792	06.06.2006	06.06.2006					
Konec výpisu	-> 9 z	áznam	iù na	alezeno	132066							

The current version of SQL Intelligent sorts columns in the order as they are defined. There are 7 entry fields on one line in the basic form. Additional fields are always created on a new line. Check boxes will be added by twos, one above the other, into a line, but if they are more than free positions, an intermediate line will be created.

C. The Definition of Conditions

Sometimes it is necessary to create more SQL genomes of a like type and link them according to conditions.

Then it is necessary to use the "Definition of Conditions" in the "Administration of User Reports".

Example:

As the picture shows, it possible to define for example a condition "Inventory", which tells us, whether the field "Inventory" is activated. For this it is enough to fill out the "Denomination" and "Description" the same way as in the previous steps and then add the condition consisting only of the string S_INVENTORY. This is the simplest condition.

Uži	atel : VAC Defi	DATAM nice podmínek	II Trx+Info Nákupní př AP Faktura AP pok	oložky AP Nákup AP Splat Trx Stav Budgets AP Hist AP Sum01	
Ad	Jmén ninistra	o stránky : Skla ace uživatelských re	dy Popis stránky :Stránka ukazující položi na skladu aportů Hledat	^{iky} Instance :ATTEYADB	
i.		Jméno	Popis	Podmínky	
0	prava	Sklad	Sklad	S_SKLAD	*
×	9	Sklad	Sklad		
		Konec výpisi	ı -> 1 záznamů nalezeno		
					+
				Oprava	

However, it is possible to write down arbitrary mathematical expressions into such conditions, for example this way:

((S_INVENTORY) || S_QUANTITY INVENTORY=3 || S_QUANTITY INVENTORY>=5) || (S_QUANTITY INVENTORY =1) && S_TRX = ON

The character || means logical OR, character && means logical AND. It is important to adhere to correct use of brackets.

This expression means that it is valid in the following case:

- variable S_INVENTORY is activated
- or the value in the field S_QUANTITY INVENTORY is 3, or is higher than, or equals 5.
- or the value of S_QUANTITY INVENTORY equals 1 and the check box S_TRX is activated at the same time.

This is how it is necessary to use check box queries of conditions.

Conditions are consequently shown upon definitions of fields both in positive and in negative versions.

)	Genomy							
	Bez podmínky	•	Sklad	SQL definující sklad				
	Bez podmínky Sklad		Transakce SQL defunující první a poslední transakce					
	ISklad		į.	Oprava				
	III SQL query je v pořádku III							

The use of a condition is usually given by a change of linking parameters.

If we, for example, created an internal select with a dependency on an item and an inventory and we subsequently added an "Inventory Position" into the report, then we would be obliged to create a second genome, which would be dependent on an item, an inventory and an inventory position. Then we would have to activate genomes for prepared conditions in the definition of fields.

3. Tools for Administration and Management of Reports

Each SQL Intelligent administrator has a possibility to have the used SQL query written up from a report. A window containing the SQL is displayed upon clicking the orange SQL link.

Skl.místo Šarže Nákupčí	 Vytvoření Poslední zm. 		16.02.2011 🗎		
Administrace uživatelských reportů		Hledat * Extra Volba *	SQL		
<pre>select msi.inventory_item_id , msi.segment1 item , msi.description , msi.inventory_item_status_code item_status , msi.item_type , round(msi.inventory_item_id/500,2) cislo , 1 cislo2 from MTL_SYSTEM_ITEMS msi where msi.organization_id = 84 and upper(MSI.SEGMENT1) like '7%_123%' order by MSI.SEGMENT1</pre>		~			
		8			
Položka 7.10133 Milležickový elei	Popis	Stav Číslo Číslo2			

The obtained SQL can be checked in the SQL form.

			Administrace								
			🗘 Admii	nistrace							
				🗘 Admii	nistrace (uživatel	le				
Uživatel : ATTEYADM				🗘 Definice skupin							
select msi.inventory_item_id				🗘 Definice transakcí							
, msi.segmenti item , msi.description msi juventoru item status code item status				😳 Administrace uživatelských reportů							
<pre>/ msi.inventory_item_codus_codu item_codus / msi.inventory_item_id/500,2) cislo / 1 cislo2 from MTL_SYSTEM_ITEMS msi where msi.organization_id = 84 and upper(MSI.SECHENT1) like '74_1234'</pre>				🖗 SQL formulář							
				😳 Statistiky logů							
							Posledních	n deset	dota	azů	
order by MSL.SEGMEN	11									8	
			PROD 🔽 Run query	0:0:0:0,58	0:0:0:0,0						
			Table n	ame : SQL Tool							
# INVENTORY_ITEM_ID	ITEM		DESC	CRIPTION			ITEM_STATU	S ITEM_TYP	E CISLO	CISL02	
1 1515/ 7	10123	M·L nžiekový olai					Inactiva	NO	30.31	1	

If the database query works in this form, it is also necessary to check whether final columns/parameters have **unique aliases**.

Attention, this applies to columns used in internal SQL too.

In case both conditions are fulfilled, the SQL must function in the SQL Intelligent application.