



User Manual

Dr. Peter Halbherr

sqlFinance

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Foreword



Prof. Dr. Paul Weilenmann, em.

Companies (and many NGO's) are **complex organisations** who strive for certain **goals**. These goals are to be defined and coordinated in a **system of goals**. For the **planning of activities** to achieve these goals and for the **measurement of the accomplishment** information **of the most varied kind** is gathered.

Special importance is attributed to **cash valued information**, acquired and processed by the **accounting department** of that organisation. Key element of the accounting is the **double bookkeeping** that will record the **wealth status** (assets and liabilities) and the **causes for the change of this wealth status** (expenses and earnings) in a **systematic way**.

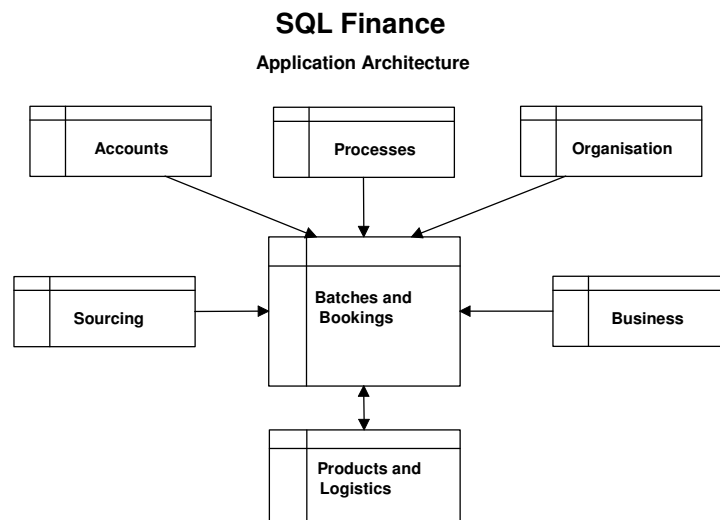
The **purpose of an accounting system** is not just the production of **balance sheets** and **income statements**. It has to serve as a valuable **management system**. The system is **designed** according to the **need of information** deduced from the **strategic and operative goals** of the organisation. It is one thing to define the **kind and quantity of information collected**, it is another thing to generate **meaningful and significant information** from the well designed system as an output.

With its **innovative** approach **sqlFinance** starts from this key issue. It uses the theoretical bases of **double bookkeeping** described in modern business sciences in combination with the possibilities of **modern computer sciences**. Special consideration is attributed to the important aspects of **effectiveness** and **efficiency**. The constitution of the bookkeeping based on **processes** results in a **high degree of flexibility** in the **reporting**, e.g. structuring information according to **contract partners**, **business fields** and **organisational units**.

I. Introduction

In **human resources consulting**, the management of **customer** and **candidate contacts** is a key factor. This is true for the **quality** of the interaction between the **consultant** and his **contact partner**, but also for the **logistics** used in the **administration process**. sqlFinance originally was designed in this context and **migrated** in several steps from the first **UNIX** based database over to a **process oriented client server application**.

Starting from basic features like **Customer Relationship management** and **batch processing**, sqlFinance has been further enhanced to a comprehensive software system for the management of **business data**. The **object-oriented interface** allows the **simultaneous access** of separate **local and server databases**. Several **mandates** can be defined in one database, with different accounting charts but shared **customer data**. Decentralised server installations may exchange their data through **replication tools**.



Through its **innovative approach** sqlFinance organises the general ledger accounting according to **processes**. Similar **bookings**, grouped into **batches**, get related to **processes**. This leads to considerable **rationalisation effects**, not only at the moment of **data entry**, but also on the **reporting** and **auditing** level.

For the **data entry**, similar **booking patterns** can be easily copied and reused. With use of **drag and drop** new batches and bookings can be **generated** from older ones and the **adjusted** according to user needs. **Reports** based on these **processes** give an **efficient overview** of the entered **booking patterns** and can be used to verify the **consistency** of the data and identify any errors.

Similarly, the **auditor** will be able to check the accounting **process by process**. Each process is a **collection** of **similar batches** and must result in a consistent **balance** and **profit/loss statement**. In the "**process**" data structure, it is also possible to register **accounting rules** and **directions** for the bookkeeping. The **auditor** then will be able to check process by process the **bookings** against the **established rules**.

Furthermore, **sqlFinance** structures booking data according to **contract partners, business fields and organisational units** ("contract", "business", "organisation"). All possible **business relations** can be managed as **"contracts"**: e.g. clients, suppliers, employees, but also bank accounts, rental agreements, insurance policies, etc. The **"business"** field rather represents the **business activity**, e.g. major projects, market segments for distribution, supply areas. While the **"business"** is related to the **external activity**, the **organisational unit** is related to the **internal structures**, like profit or cost centers.

Based on the **general ledger data**, an efficient **controlling** can be created. According to your needs you can emphasize your analysis more on the control of the **contract relationships**, the **performance of business fields** or the **productivity of the organisational units**.

sqlFinance includes reports for open and already closed periods, according to the needs of the user. At the level of booking entry **foreign currencies, rounding, charges and commissions**, but also **TVA tax** can be entered. A module for the **payroll** support **recurring payments** to employees, as well as automatic **generation of bookings** for the calculation of **social benefit expenses**. Finally, the **time management** module will allow you to allocate **labour expenditure** to business fields and organisational units.

In the **sales** and **purchase** modules, **products** can be managed, with **quantities**, and integrated into **bills of material**. The **billing** of the sales module allows you to use different **tax rates** in the same bill. Different **addresses** can be used for **billing** and **shipping**. In the **server version**, **inventory positions** and the tracking of **stock movements** is also possible.

Language management has been considered a key feature from the beginning. All language is driven from **databases**. The **"Language Manager"** tool makes language management **efficient** and allows a **rapid adaptation** to any **other language**.

An **easy start** is offered with the **free download** of the **general ledger** module. This version includes an **IFRS** chart of accounts. **Foreign currency** support is included, as well as **organisation** (cost centre) and **contract partner** definition at booking level. The **free download** version is limited to **one simultaneous user**.

sqlFinance has been used for companies audited by

PRICEWATERHOUSECOOPERS 

in **Switzerland**. Revisions also have been effected by Social Security and official Tax Auditors. The software has met – without exception – **all requirements** of these audits.

In a recent review by **Prof. Dr. Beatrice Meyer** of the **Winterthur School of Management** the application and software design found **unconditional approval** and were considered as an **innovative** and **interesting approach**.

The data model with batches and bookings and the use of one- and double-sided bookings has been reviewed with **Prof. Dr. Paul Weilenmann**, emeritus lecturer of economics at the **University of Zurich** who found many of his theoretical concepts realised in the **sqlFinance** application.

UP to now **sqlFinance** has met without exception **all requirements and examinations** of **experts, auditors and regulatory authorities**.

At this occasion we'd like to express our **special thanks** to **Prof. Weilenmann**. His contribution in **theoretical aspects** clarified many **key issues** and confirmed us to follow the chosen path and get the product **ready for the market**.

Special thanks go to my wife, **Silvie Halbherr-Zehnder**, as well. Over the long period of research and development she motivated me many times to continue my innovative orientation and get the project to completion.

For the support in application design I'd like to thank my IT-partner **Urs Bretscher**, as well as **Dario Scheuber** who brought in his valuable "line" experience as chief financial officer in financial and industrial companies.

I'd like to thank equally all **clients and fellow employees** of **IPAG Inter Personal AG**, my consulting company, who have made possible this „diversification“. Furthermore I got **valuable support** from **Saskia Wolf** in the edition of the manuals and the final application testing, as well as from **Thomas Ruckstuhl** in the solution of many system problems regarding the use of Microsoft SQL Server and ODBC.

Furthermore I'd like to mention here the valuable contribution of my numerous **interview partners** from the **IT and audit sector**. In many cases they were open for an exchange of theory and practical experiences and gave me valuable hints for the design and usability of the application.

sqlFinance represents **an innovative concept of accounting**. My intention however was not only to develop **the theory**, but **to prove the practicability** with a **ready to use product**. This offers you the possibility to use first our **sample data** and **get familiar** with the **application functionality** and the many **reporting features**. Then the door is open for the **productive use** in your company and a newly to discover **enjoyment** about the **efficiency and explanatory power of accounting**.



Dr. Peter Halbherr, Bern, May 2009

II. Accounting System

1. Double entry book-keeping

Accounting is **mathematics**. Most **simple** mathematics one could think. The most frequent operation is the **addition**: revenues and expenses are added separately, the **difference** results in the **profit**. Just because this seems so easy, there is little indication in the technical literature, what really are the **mathematical requirements** of an **accounting system**.

Furthermore, there are different **booking styles** found in practice, that differ mainly in the way data is **recorded**. In **Europe**, it is common to register on the **booking line** not only an **account** and an **amount** but also a **contra-account**. In the **United States** however the **simple booking line** with just an **account** and an **amount** is widespread used. In some cases, the booking lines are associated to a **common contra-account** (e.g. receivables clearing account), what gives a **mixed style** positioned between the two main data entry modes.

We would like to call the first variant „**double sided booking**“ or „DSB“, the second variant „**single sided booking**“ or „SSB“). **sqlFinance** accepts **both ways** of data entry. It is even possible, to use both booking styles within the **same mandate**. Thus, in a **first period** you can continue with the „**double sided booking**“ style, and then **step by step** get acquainted with the advantages of the „**single sided booking**“ style.

„**Double entry bookkeeping**“ or „**double entry accounting**“) has its **roots** in the **Middle Ages**. At this time, all data was registered **manually** on **paper**. It is evident that the availability of **information technology** and especially the use of **relational databases** has opened **other possibilities** for an **efficient accounting system**.

In order to meet the **requirements** of the **regulators** and the **clients** often insecure in this regard many software suppliers have integrated the **old habits** in their applications. However, if you want to use more the **potential** of today's **information technology** for your accounting, it is necessary to consider the **mathematical requirements** of an accounting system and **review** the **traditional way** of bookkeeping. A **serious evaluation** shows that there are **several solutions** available, each one with **advantages** and **disadvantages** and their practical implications.

Thus, it seems worth while to consider the **historical development** of „**double entry bookkeeping**“, and the evolution of **mathematical requirements** for **accounting systems**.

2. The contribution of Luca Pacioli (1494)

The historian agree that **double sided booking** has been initiated by Franciscan father **Luca Pacioli** (1445-1517) and his publication from the year **1494**. In his act „**Summa**“, the mathematician has written a summary of the **mathematical methods** of his times. In the famous Tractatus XI with the title „**Particularis de computis et scripturis**“, Pacioli describes the **rules of bookkeeping** as they were applied at that time by the northern Italian **trading houses**.

Typical for the bookkeeping of these times is a **high redundancy** in the **data collection**. The business event was **first registered** as a note in a **Memorial**. Based on this protocol a **financial expert** established a **booking** with **principal and believer** (debtor and creditor) and entered it in the journal. In a third step this **booking** was **transferred** to the general ledger, which included a separate account sheet for each **principal** und **believer**.



Luca Pacioli: Summa de arithmetica, geometria, proportioni et proportionalità. Toscolano, 1523 (2. Ed., Signature: 72520)

Separate **account sheets** were used not only for the **settlement** with the **contract partners** (clients and suppliers), but also for the **inventory control** of the **trading goods**. Furthermore **operating expenses** were summarized on some accounts, as well as **cash positions** on the **principal** and the engaged **capital** on the **believer** side.

Through the use of the **booking line** as an **intermediate element** the accountant attempted to assure that every change on the **principal side** had its **counterpart** on the **believer side**. If any **deviations** were found, they had to be reported as **profit or loss**, get attributed to the **business event** and moved to a summary account "profits and losses". At the moment of **closing**, this account was **cleared** with the owner's equity. Such deviations **arose** typically **from the inventory**, when the **sales price** was **higher** than the **purchase price**, and the **difference** immediately to be attributed to the **profit**.

Therefore, the **goal** of the bookkeeping was not just to **keep principals and believers in a balanced position**, but rather to **calculate the profit for each business case** and attribute it immediately to the **profit and loss account** or the **owner's equity account** respectively. It is interesting to note that **Pacioli**

did not present any propositions for the **summarisation** of the profits or losses **per client**, what would have given the base of a **simple controlling**.

According to **Pacioli** the accounting was „**in balance**“, if the **sum** of the **principal** as well as the **believer side** separately added would give the **same (positive) amount**. Were the amounts of the **believer side** considered as **negative values**, then the accounting was „**in balance**“, if the **sum of all principal and believer values** resulted in a **total of zero**.

Mathematically, the **double sided accounting** of the **Middle Ages** can be considered as a list of **booking values**, whose **total** results in an **amount of zero**. Are the **positive amounts** attributed to the collective name „**assets**“ and the **negative amounts** to the collective name „**liabilities**“ we get a **balance** with a **total of zero**.

In **Pacioli's** work already is apparent, how **profits and losses** emerge as counterparts of **not furthermore explainable changes** in balance values and can be added up to a **profit or loss** at the **closing of the period**.

As **Paul Weilenmann** (Grundlagen des betriebswirtschaftlichen Rechnungswesens, Sauerländer/SKV 1988, page 21) brings it to the point, it is seems reasonable to **separate not furthermore explainable asset gains and losses from the balance** and attribute them as **expenses and revenues** to a **separate income statement**. This way we get to the typical **partitioning** of today with **assets, liabilities, expenses** and **earnings**.

With the increasing complexity of the commercial activities the number of **booking objects** (there was need for more accounts than just principal and believer) increased as well as the number of **booking events**. In the accounting this resulted in a rising number of booking events with just an assets or liabilities part and no counteraction (or no counteraction identifiable) on one of the other balance accounts.

It was the great merit of **Luca Pacioli** that he did not just summarize these non-existing or non-identifiable counteractions but ordered them according to their effect on the one-sided balance position, as **expenses** (one-sided decrease of an active account or increase of a passive account) or as **revenues** (one-sided increase of an active account or decrease of a passive account).

Modern **accounting theory** as the base of today's practice (see **Paul Weilenmann**, ibidem) uses the following definitions:

- **expense** is money, real asset or service increase without or with non-identifiable decrease
- **revenue** is money, real asset or service decrease without or with non-identifiable increase

Non-identifiable on a second balance account are e.g. expenses like salary payments, depreciations on fixed assets or voluntary allowances (NGO's, additional payments to pension funds etc.) or respectively revenues like sales of services or value increases of financial assets.

The manual on hand relies on this principle and thus makes available the use of double-sided bookings where each debit booking faces a credit booking of the same amount and one- or double-sided summaries where the bookings are marked with the **arithmetic operator (+) or (-)**. Consequently, the sum of the bookings will always be zero.

(personal communication, contribution of **Paul Weilenmann**, Zurich, 29th of april 2009)

As soon as we allow bookings between **balance** and **income part** emerges a **difference** between **assets and liabilities** and the **inverted difference** between **expenses and earnings**. This difference we denominate as **profit or loss respectively**. It is the **sum of the not furthermore explainable difference between expenses and earnings** (see Paul Weilenmann, ibidem).

Balance

Income statement

explainable gains and losses not furthermore explainable gains and losses

(1) + assets
(2) - liabilities

(3) + expenses
(4) - earnings

= + **profit**(balance)

= - **profit** (income statement)

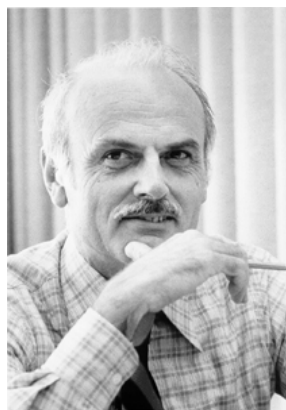
Balance and income statement with **explainable** and
not furthermore explainable gains and losses

The **accounting system** is **defined** as a **list of at least an account and an amount**, with a **total of zero** for **all amounts** of the list, whereas the **accounts** are attributed to the **four types** (assets, liabilities, expenses and earnings), and the **profit** is calculated in the **balance** as the **sum of assets + liabilities**, and the **negative profit amount** in the **income statement** as the **sum of expenses + earnings**. **Bookings** can be **added in any way**, under the **sole condition** that the **sum** of the new bookings will also result in a **total of zero**.

3. Normalisation of data

An **accounting system** is as good as the underlying **data model**. A consistent **data organisation** simplifies not only the **data entry**, but enhances the flexibility and significance of the **reports** as well. It is surprising, how little **data modelling** has been recognized as a possibility for **innovations** in the field of **general ledger accounting**.

The **organisation** of data according to **mathematical criteria** is a **prerequisite** for the efficient use of databases and is known under the term of "**normalisation**". The **basic concepts** have been introduced by **Edgar F. Codd** (E.F.Codd, „A Relational Model of Data for Large Shared Data Banks“, Comm.ACM 13 (6), June 1970, pp. 377-387). Working with large databases **Codd** developed his **rules of normalisation** that are widely accepted up to this day.



Codd, E.F. (1970). "[A Relational Model of Data for Large Shared Data Banks](#)". [Communications of the ACM](#) 13 (6): 377–387

Codd discovered soon that through **normalisation** of data a **universal data language** could be developed. With this approach the **application** was able to reach a **maximum of independency** from the **data**. Furthermore, to a large extent the **redundancy** could be reduced and **multiple entries** requiring **complicated administration** tools again **avoided**.

In **practice** the **maximum elimination of redundancy** is **not consequently realised** however. An important **reason** is the **time aspect**. In a **billing process** for example, it is necessary to register the client address **each time** a document is sent. Considering data consistency it would **not be desirable** that a **change of address** would apply to **all open or even posted** billings.

Another **limiting factor** is the **complexity of the application**. Consequently **normalised data** leads to **many very small tables** that are **reintegrated** for the application into so called "**views**". The usage of **views** requires a **technical basis** for this in the used **database**, an element **rather complicated** to realise.

As a **third element** should be considered that **Codd's** reflections treat mainly the structuring of **master data**, basically composed of an **index** and **descriptive elements** (e.g. address number and address data). The **key question** for **double sided accounting** regarding **multiple indices in the same transaction table** remains here **not answered**.

Following the arguments of **Codd**, the further **normalisation** of **double sided** into **single sided bookings** seems an **evident conclusion**. At the **first normalisation level** already **Codd** required that the **repetition of homogenous data** is to be **avoided**:

Instead of a **list** with **structure A** (double sided):

- batch, account1, account2, amount

It is better to establish a **list** with **structure B** (single sided):

- batch, account1, amount
- batch, account2, amount

For the **accounting** this is especially **evident**, since the **bookings** are **attributed to a batch**. Following the list with **structure A** there are immediately **problems arising** for the **reporting** programs. With such a **data structure**, how could a database selection call for a **balance** or an **income statement** ever work **efficiently**? For **every query line** the program would have to **check** if account1 **or** account2 would **correspond** to the **current reporting account**, and for **account1** the **positive amount** and for **account2** the **negative amount** would have to be considered for the **calculation** of the **report total**.

In a more general view, this **design issue** is well known among programmers as the so called "**bill of materials**" problem. Records of a **bill of materials** include **two product numbers**, one for the **master product** and one for the **detail product**. Two product numbers are necessary, since **each product** can be relied in **multiple ways to any other product** (compare to this subject: **Carl August Zehnder, Informationssysteme und Datenbanken**, B.G.Teubner, Stuttgart 1989, mainly **pages 60 f.**).

For the full **normalisation** of this „many to many“ relation the **relationship** as a **container** must be **registered** in the database as well. Based on this entry, **single sided relations** to the **products** can be entered. Only with the **complete normalisation** the production of **variants** can be represented correctly with **various details** as part of the **superordinate connection**.

In **practice** this rather complicated solution is **often avoided**, since it is **not efficient** for applications with **drag and drop** functionality, where for example a **master product** is simply **dragged** over a **detail product**. The application can be **simplified** recording the **master product** as **product1**, the **detail product** as **product2**. With this approach the **reports** however get **more complicated**. These were probably the considerations that got **Pacioli** and others to use the **double sided bookings**.

On the other side, with today's **technical possibilities**, there is **little interest** to **omit the "batch"** in the **accounting data model**. On the **contrary**, for the **revision** and the **comprehension** of the **booking process** the possibility to **attribute bookings to a batch** is **most valuable**. This **corresponds well** to the **usual presentation on paper**. Thereby it is **less important** if the bookings are **single or double sided**. It is **only necessary** to assure that the **sum of all bookings** in the batch result in a **total of zero**. For **double sided bookings** this will **always** be the case, for **single sided bookings** it will be necessary to **check** for the zero total **before** the batch can be posted.

It is also interesting to reflect the **account assignment** under the **aspect of normalisation**. As a matter of fact, almost all **charts of accounts** include **several dimensions** summarized to an **overloaded register** difficult to handle. A **chart of accounts** often **includes elements** to structure the **internal organisation**, the **business field** and the **contract partner**. This makes the

general ledger too complex and requires considerable efforts to **separate** the chart of accounts into these **underlying dimensions** in the reports.

The **complexity** of the **chart of accounts** is already apparent in the proceedings of **Pacioli**. The **initial concept** of an **account** was to represent a **client reporting** (that is the **contractual relation** to the **principal** or the **believer**). But soon enough **virtual principals and believers** appear, like **merchandise purchase and stock**, and later **general expenditures** as well as **profits and losses** make the **contractual aspect** of the account **completely disappear**.

These arguments show that it is much **more efficient** to use a **consistent data model** for the **general ledger accounting as well**. This way, the **chart of accounts** can be kept **slim** and **oriented** for the **financial reporting**. The details for the **contract partners, business fields** and **organisational units** are then available from **supplementary data structures** at the user's demand.

4. The data model of sqlFinance

The **data model** of **sqlFinance** provides a valuable **base** for later analysis and an efficient **controlling**. Normalised bookings are very suitable for the treatment with statistical methods and can be considered as a **multivariate system**. A number of **parameters** (account, organisation, contract, etc.) influences as a **resulting variable** the **amount**. This way we get straightaway a correctly designed **data-Cube**, as it is common in „**business intelligence**“ applications. This data cube will include the following **parameters**:

- **Organisation:** the **internal** organisation of the company, often addressed as **cost centre** structure
- **Business:** the single **client project** or a **collection** of **client oriented activities** (in this case: **business field**)
- **Contract:** the **contract partner** (client, supplier, employee)
- **Product:** the **physical product** or the **service**, with reference to **product lines, measurement units** and **prices**

The possibility to indicate a **contract partner** in all bookings makes it possible to keep the **chart of accounts** very **slim**. Since the **contract partners** are transferred to a **separate reference table**, the **chart of accounts** only holds the stable **scaffold** for the **presentation** in the **balance** and the **income statement**. The **contract number** can be **equally used** for the administration of **bank accounts, insurance policies, telephone numbers, rental agreements**, etc. In addition to this **contract reference**, there is the **supplementary possibility** to manage **client projects** or **internal projects** in a further reference table („**business**“). With this approach **single sided bookings** can attribute **supplier movements** directly to **client projects**, which will make the **internal logistics** and **project reporting** very **efficient**.

While the **contract partners** represent the **external relations** of the company, the **organisation** serves for the structuring of the **internal relations** and responsibilities. The **organisation** can represent a **cost** or a **profit centre**. **Organisational units** can be assigned to **master organisations** (e.g. departments or sales areas). Similarly **employees** can be registered as **part** of an **organisational unit**.

The **product field** is only available in the modules **purchase** and **sales** and offers not only the possibility to **manage material and services**, but also entire **bills of materials** and **inventory locations**.

In the **full version** **sqlFinance** includes a **payroll** and **time management module** as well. The **salaries** can be attributed to **organisational units**. The **partial closing** of an **intermediate period** will then show the **personnel expenses** per **organisational units** and import these **summary bookings** into the **general ledger**. The same way **operating hours per employee** can be attributed to a **project** or **business field**, or get moved from **one organisational unit** to **another one**. Bookings of this kind can be **imported** as a **summary** to the **general ledger reporting** as well.

5. Process oriented accounting

If you compare **registered batches** of an **accounting system**, you will soon recognize that the **booking patterns** are frequently repeated. Receivables, payables, payments, payroll, bank interests and expenses, depreciation, tax: all these **processes** follow a particular **booking pattern**. For the **accountant** as well as the **auditor** it seems rewarding to analyse and verify not every singular batch, but **batches grouped into processes**.

For the **assignment of bookings to batches and processes** **single sided** as well as **double sided bookings** can be used. It is only necessary to make sure that the **sum of all entered bookings** result in a **total of zero**. With **double sided bookings** this is **always** the case, since every booking line will add the **positive amount** for the **debit** and the same but **negative** amount for the **credit account**. With **single sided bookings**, the user can **only commit** the batch if the **zero total condition** is **fulfilled**.

With today's **information technology resources** it is **not really difficult** to **check batches** for a **total of zero** over all bookings. **Incorrect entries** can be **easily identified** and modified. The **batch** can also be used for the **preliminary register** of still **incomplete data** and be committed at a **later moment** of time to the accounting system.

Felder		Liste	
process	table_name	type	header
audit	PROCESS	P	external audit
booking	PROCESS	P	master booking pro
business	PROCESS	P	master business p
cash	PROCESS	P	cash account in ba
clear	PROCESS	P	clearing
closing	PROCESS	P	closing in/to gen.le
consulting	PROCESS	P	consulting services
credit	PROCESS	P	accounts payable
customer	PROCESS	P	customers (sales)
debit	PROCESS	P	accounts receivabl
default	PROCESS	P	default process
document	PROCESS	P	documents

Example of a process structure in a process window of sqlFinance

Typical **processes** to group **batches** are e.g. purchase and sales, payments, interest calculations, capital increase, but also **processes not relied to a cash movement** like depreciation, establishment of reserves, etc. For each **process** a **small balance** and **income statement** can be established. Since the **process** follows a **homogenous pattern**, the **report** will only include **very few accounts**. For this reason **incorrect bookings** are **easily identified**.

With **drag and drop accounts** can be associated with **processes**. Through this procedure the user can generate **process related accounting patterns**. Later, when entering **bookings**, the **accounting pattern** is used for a preselection of accounts, presented in a **combobox**. The **preselection will make data entry much more efficient** and help considerably to **reduce accounting errors**.

process/accounts (master process)				
Process:	booking	Base Table	process (026)	01.07.09
Process	booking	master booking process		
Class	booking	includes as detail all booking processes		
Count	20	(entered in the batch windows)		
Process	interest	bank interests and expenses		
Class	booking			
Count	3			
Account	118000	SBC Bank Account	Bank Account Swiss Bank Corporation	
Group	1180	liquid assets		
Account	340100	Finance Expenses (Bank)	Various Finance Expenses (Bank)	
Group	3410	finance expenses		
Account	440100	Finance Revenues (Bank)	Finance Revenues Bank (Interest payments)	
Group	4410	finance revenues		
Process	payable	accounts payable		
Class	booking	payroll and infrastructure payables		
Count	6			
Account	118000	SBC Bank Account	Bank Account Swiss Bank Corporation	
Group	1180	liquid assets		
Account	230100	Payroll Clearing	Payroll Clearing Account	
Group	2310	payroll		
Account	312011	Purchase of Goods		
Group	3120	Purchase Goods		
Account	320010	Employee Expenses	Various Employee Expenses	
Group	3200	infrastructure		
Account	320011	Infrastructure		
Group	3200	infrastructure		
Process	receivable	accounts receivable		
Class	booking			
Count	2			
page 1				01.07.09

process/accounts (master process)				
Process:	booking	Base Table	process (026)	01.07.09
Process	booking	master booking process		
Class	booking	includes as detail all booking processes		
Count	20	(entered in the batch windows)		
Account	112010	Receivables (main)	Main Receivables Clearing Account	
Group	1120	accounts receivable		
Account	118000	SBC Bank Account	Bank Account Swiss Bank Corporation	
Group	1180	liquid assets		
Process	sales	sales orders		
Class	business			
Count	4			
Account	112010	Receivables (main)	Main Receivables Clearing Account	
Group	1120	accounts receivable		
Account	220010	VAT Payables	VAT Value Added Tax Clearing Account	
Group	2230	tax VAT	(payables and payments)	
Account	412020	Hardware	Computer Hardware (PC)	
Group	4120	sales goods		
Account	413010	Sales of Services (goods)	Installation and Maintenance	
Group	4130	sales of services		
page 2				01.07.09

Master process „booking“ with processes „credit“, „debit“, „interest“ and „sales“ and the corresponding accounting (see enlarged presentation in appendix)

For **each process**, a **profit or loss** can be calculated as well, and the **addition** of the total **company profit** be tracked over **all processes** involved. In this context it may be valuable to differ between **two process classes** grouping **cash relevant batches** (e.g. interest, expenses) on one side and **batches with calculatory bookings** (e.g. depreciation) on the other. The **total over all bookings per process** must be **zero** again, and the **balance profit** equal the **negative value** of the **income statement profit**.

Mandate:	MyCompany	totals per booking process/profits			30.06.09
Period:	2009.1	Base Table	period (1/22)	01.01.09 - 31.12.09	
Process	Header	Total	Profit Balance	Profit Income	
credit	accounts payable	0.00	-5,050.00	-5,050.00	
debit	accounts receivable	0.00	0.00	0.00	
interest	bank interests and...	0.00	150.00	150.00	
sales	sales orders	0.00	13,000.00	13,000.00	
Grand Total		0.00	8,100.00	8,100.00	

Overall profit as a the sum of partial profits per booking process

Certain processes (like the payroll) can be set up **outside the general ledger**. This allows it to **reduce considerably** the **data volume** of the **general ledger**, and the **functionality** of the **outside application** can be **optimised** in **complete independence** of the **requirements of the general ledger**. In all

these cases, the **process oriented data structure** of **sqlFinance** offers an **optimal interface** to **import any data**, with **single sided bookings** collected in **batches**. The **only condition** is here again that the **total of all bookings result in zero**.

At the moment of **revision** the efficiency of **process oriented financial accounting** becomes particularly **evident**. The **auditor** does not need any more to **reconstruct** the **business event** out of the **journal**. In the opposite, he can **audit groups of batches summarised in processes**.

For the auditor, more **interesting processes** (like depreciation and other adjustments) are easily **identified**. In the **notes** of the batches **comments of the accountant** may be registered. These **notes and the associated proceedings** can then be **compared** with **instructions registered on the process level**, in order to **verify the consistency** of the financial reporting according to the given **rules and regulations**.

In a variant the **process** can be assigned to the **contract**. Instead of **booking processes** this leads to **business processes**. **Contract partners** like clients, suppliers, banks, hirers, employees etc. are **assigned** to a **process**. In this case the **report** will show the **contribution** of the **single contract partners** or **contract partner groups** to the **total profit/loss** (employees – without income statement related bookings - and suppliers paid with 10'487.40; revenues bank interest and customer sales + VAT 7.6% received with 14'138 leads to the current cash total of 3'650.60):

Mandate: MyCompany		totals per business process/profits		06.07.09
Period: 2009.1	Base Table	period (1/22)	01.01.09 - 31.12.09	
Process	Header	Total	Profit Balance	Profit Income
customer	customers (sales)	-13,988.00	-988.00	13,000.00
employee	company employees	5,437.40	5,437.40	0.00
finance	financial services providers	3,500.60	3,650.60	150.00
supplier	suppliers (purchase)	5,050.00	0.00	-5,050.00
Grand Total		0.00	8,100.00	8,100.00

Development of the total profit as sum of single profits per business process

This **report** makes apparent again that the sum of the profits in the **balance** minus the sum of the profits in the **income statement** over all bookings of one or more batches will always result to **zero** (see the chapter above about **Luca Pacioli**). **Differences** in the profit of the **balance** and the **income statement** are due to **payments**. With a payment the **balance position** of a contract partner is **cleared**, while his income-statement related **expense** or **revenue** remains still **active**.

The **business process** must be analysed over an **entire period** and **all included batches**. With the **booking process** however the profit is calculated **only for the batches assigned to the process**. In this case, **balance** and **income statement** will always show the **same profit total** per process, since **each booking process** includes **only batches** with a **total of zero**.

III. Quick Start

1. Installation Guide

Instructions for the installation

The software **sqlFinance** can be downloaded from the homepage (<http://www.sqlfinance.com>). In the **download center** not only the software, but also instructions and a manual are available for the user.

You choose between the **sqlFinance "public version"** (free version) or the **sqlFinance "full version"**. As soon as you have selected a version, you can **fill out** an **order form**. You enter your personal data and then receive **by email** the **link** for downloading. In accordance with the instructions you can **install** now **sqlFinance**. The default path ("**c:\programs\sqlFinance**") is defined in your operating system and can be altered during the installation process.

Notes for the installation of the full version of sqlFinance

There are important differences between the sqlFinance **"public version"** and the sqlFinance **"full version"**. A short list with the **features** of the two versions follows below:

The **free version** („public version“) is limited to **single user mode** and offers:

- financial accounting with unrestricted number of mandates and subperiods

The **full version** supports **multi user mode** with local and network **database** access (including **Microsoft sqlServer**) and includes the following **application modules**:

- purchase and sales orders
- inventory control and shipping
- accounts receivable and payable
- human resources and payroll
- time management
- portfolio management

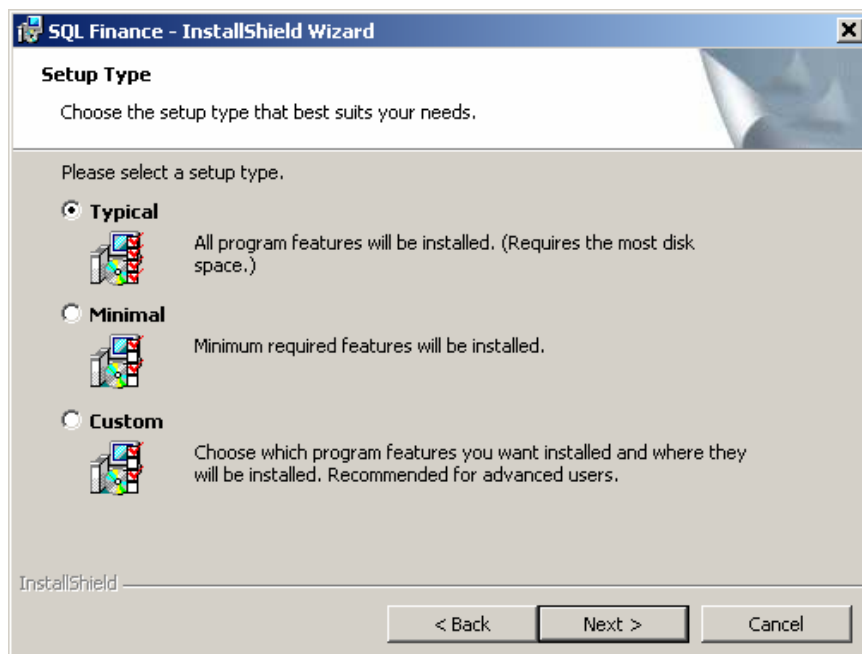
Notes for the use of foreign languages

If you would like to use **sqlFinance** in connection with foreign languages, you can use the **"BT Language Manager"**. A current version of the **"BT Language Manager"** is available at the **download center** of the **sqlFinance homepage**. The **Language Manager** should be installed directly to the root directory "**c:**". It includes **tools** for the translation in **any other language** and assures a consistent language use. **sqlFinance** establishes a **connection** to the **Language Manager** with use of the **„lmroot"** variable in the **„l.ini "** file (found in the root directory of **sqlFinance**).

If the **Language Manager** is correctly installed, **sqlFinance** will begin **automatically** to work in the desired **foreign language** (according to the setting **Imroot variable** in the **sqlFinance** application and the **setup parameters** of the active language in the **Language Manager**). Please consider that you must **start sqlFinance twice** in order to get the translation into the foreign language fully active (once in order to change the settings and a second time to get the translation running).

Additional information

On our homepage **<http://www.sqlfinance.com>** there is always **news available** about our company and our software **sqlFinance**.



the sqlFinance installation tool

2. Setup of application and first booking

After the installation and the start of the software, the program will immediately establish a **connection** to the **sample database „myCompany“**, select **„myCompany“** as the **active mandate** and then present the **selection tool** on the screen. Now the user can choose **either**, to **change the sample mandate** according to his requirements **or** to **start entering a new mandate**, possibly with a **new chart of accounts**, or even a **new database** (for the copying of a database see the section **“data management”**).

If just the current mandate **„myCompany“** is to be changed, **delete the given batches** of the sample and start right away with the **entry of new batches**. Note that when batches are erased, the **bookings** of these batches will get **erased as well** (after **confirmation** in the user dialogue with **“yes”**).

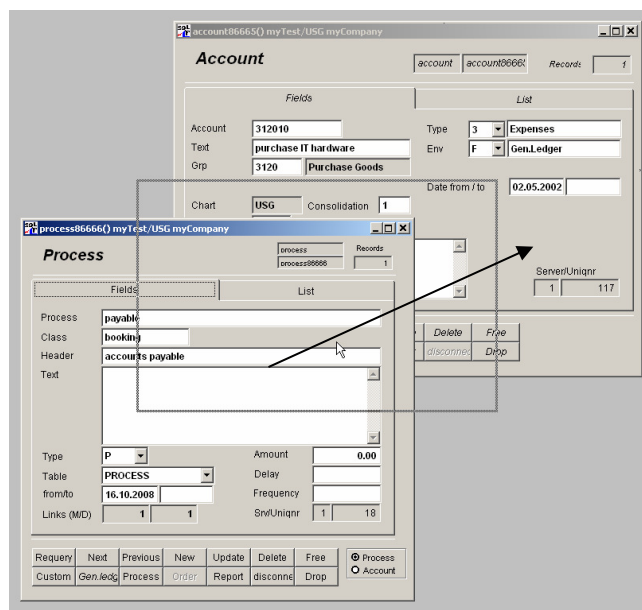
If you prefer to **start a new mandate** with a **new chart of accounts** and a **first booking**, proceed as follows:

- First enter the **new chart of accounts**. In the sample mandate **„myCompany“**, and using the **selection tool**, select the **chart of accounts**. You may use the existing chart of accounts **“IFRS1”**, or enter a **new chart of accounts** with the key **„add“**, (e.g. **„USG“** for **„US-GAAP“**) and **confirm** with the **„update“** key.
- As a **detail** to the chart of accounts, select a form with **accounts** (click on the **“detail”** key, third from left, second row of form keys) and **enter** a number of **accounts**. The accounts must be **attributed to groups**. If necessary you can **select** (with the selection tool) all groups and **add new groups** at your convenience. For each account enter the **type** as well (**1 assets, 2 liabilities, 3 expenses, 4 revenues**).

The screenshot displays two overlapping windows from the sqlFinance application. The background window is titled 'Chart' and shows a 'Fields' section with 'Chart' set to 'USG' and 'Text' set to 'US-GAAP'. The foreground window is titled 'Account' and shows a 'Fields' section with 'Account' set to '218010', 'Text' set to 'Closing', 'Grp' set to '2180', 'Chart' set to 'USG', and 'Type' set to 'Liabilities'. The 'Date from / to' is set to '20.03.2009'. Both windows have a 'Records' count at the top right (2 for Chart, 3 for Account) and a toolbar at the bottom with buttons like 'Request', 'Next', 'Previous', 'New', 'Update', 'Delete', 'Free', 'Custom', 'Chart', 'Gen. Ledger', 'Order', 'Report', 'Commit', and 'Drop'.

The new chart of account „USG“ and the closing account „218010“

- c. The new **chart of accounts** should include the following two **special accounts** (preferably placed in the liabilities):
- closing account
 - default batch account
- d. Get the **accounts** assigned to **processes**. With the **selection tool**, open a form with **all processes** and another form with **all accounts**. Use the **mouse** to **drag and drop** the **"fields"** page of the **process form** over the **account form**. The assignment will be **confirmed** with a message **"Records connected: PROCESS + ACCOUNT"**. With use of the **optiongroup** (in the process form at the bottom right) and a **double click** on the **option** select the **assigned accounts**, or **disconnect** them using the **"disconnect"** key in the **account form** (selected as a detail to the process form).



Assignment of process „payable“ to account 312010 (purchase IT hardware)

- e. Using the selection tool, select the old mandate („myCompany“). Enter a **new mandate** (e.g. „myTest“). In the new mandate, set the **chart** value to the new chart of accounts „USG“, enter the value for the **closing account**, but not yet a value for the **period**.
- f. After the entry of the new mandate you are asked in a user dialogue, if you want to **accept this mandate** as the **current mandate**. Answer with **“yes”** and get (automatically) to the **mandate tool**, where you confirm your current mandate setting with the key **“continue”** and return to the selection tool. Now you can **reselect the new mandate**, possibly using the keys **“next”** and **“previous”** to scroll from the old to the new mandate.
- g. With a double click on the field **„period“** of the mandate form (setting the field value to the wildcard **„%“** to get **all records** of the table), call up the **period form** and a **new period** (e.g. „2009.1“). The field for

the **closing period** („new period“) should be **left empty** for the present. **First** enter a number of **periods** with **empty closing period values** and **then adjust the closing period**.

- h. Through scrolling get to the desired **period**. Quit the period form using the key „quit“. At this moment the value of the **selected period** is **transferred to the mandate form**. Confirm this change in the mandate form with the **“update”** key. Now the mandate has **all default values set** for the current period and the default account of the batches.

Forms „mandate“ and „period“ with mandate tool (top left) for the activation of the new mandate

- i. Select a **batch form**. In the empty form, **enter a first batch**. The form **requires** an entry for the fields **„process“** and **„activity“**. For the lookup of process entries, set a wildcard (percent sign „%“) in the **„process“** field of the batch and use a **double click**. Now, in the **process form**, select a **process** or enter a new process. Get **back to the batch** with the key **„quit“** or the key combination **„ctrl-F9“**: the values for **„process“** and **„activity“** will be **transferred**.
- j. **Select** the bookings belonging to this batch with the key **„detail“** (or **„gen.ledger bookings“** respectively, third key from the left in the second row of form keys). In the **empty form**, enter the **first booking** with the desired value for the fields account and amount/total.
- k. If **processes** have been assigned to **accounts**, this **preselection** can be viewed in the **combobox** of the **account field** (with a click on the **arrowhead** at right of the field). **Other accounts** may still be entered, as long as they are part of **the chart of accounts**. Enter **“%”** in the **account field** and apply a **double click** to get a **full list of available accounts**.
- l. Entering the value **„SQLCOM“** in the **„contract“** field, consider how the **„whichpen“**-function retrieves the full value through a **lookup feature** and copies the default values for business, organisation, account and

amount from the **contract** to the **booking**. It may be necessary to go through the contracts and **enter new records** or **adjust the default values** to get the correct settings for the new chart of accounts and the business and organisation values of your specific environment.

- m. After the entry of the first bookings, check the **balance report** to see **how the entry reappears in the listing**. Select the **current period**, call up the form **"reports"** (fifth key in the second row) and select a report (like **"details per account"** or **"balance (totals)"**). Start the report with a **double click** on the list item **"preview"** or the "print" key.

The screenshot displays three overlapping windows from the sqlFinance application:

- Account Window:** Shows fields for Account (312010), Text (purchase IT hardware), Grp (3120), Type (3), Expenses, Env (F), GenLedger, Chart (USG), Consolidation (1), Date from/to (02.05.2002), For.Curr., and Comment. It includes buttons for Query, Next, Previous, New, Update, Delete, Free, Custom, Grp, GenLedger, Order, Report, disconnect, and Drop.
- Gen.ledger Window:** Shows fields for Class (booking), Process (payable), Activity (accounts payable), Header (payable 2009.03), Business (main), Business Contract (default), and Payment Contract (default). It includes a Memo field and buttons for Query, Next, Previous, New, Update, Delete, Custom, Contract, GenLedger, Order, Report, and Commit.
- Gen.ledger items Window:** Shows fields for Register/Step (86, 1), Account/Type (312010, 3), Date from/to (15.05.2009), Comm/Charges (0.00), Amount (4 000.00), Business (main), Contract (SOLCOM), UserOrg (USR, default), Currency/Rate (CHF, 1.00), Total (4 000.00), Text (purchase IT hardware), and Balance (4 000.00). It includes buttons for Query, Next, Previous, New, Update, Delete, Free, Custom, GenLedger, GenLedger, Order, Report, Commit, Drop, and checkboxes for General Ledger, Receivables, Payables, and Taxes.

Forms for general ledger batch with gen.ledger bookings and the account "purchase IT hardware"

- n. Before closing the period **commit the batches** (key „commit“). This will **verify the total of zero over all bookings in the batch**.
- o. During the first steps it is most convenient to use the default values **„test“** for the **process** and **„default“** for the **contract** field. It may be necessary to set the **debit and credit accounts** of the **contract** (**„default“**) to **account values** of the **new chart**.

3. Single and double sided bookings

As a result of the consistent application of the data model, **sqlFinance** can offer the use **single sided** and **double sided** bookings **within the same mandate**. In the following part the two methods of **booking data entry** are briefly presented:

Method 1: single sided booking style

Documents with several bookings, such as:

> account, date, text, amount

whereby must be considered: sum (amount1, amount2, amount3...) equals zero.

In the report the accounting lines are represented unchanged:

> account1, date, text, amount1
> account2, date, text, amount 2
> account3, date, text, amount 3
etc.

Note that only reports with **all bookings per document** (typically balances and profit/loss statements) will add to a **sum of zero**. Reports of **selected accounts** will in contrast add to the **sum of all movements in these accounts**.

Structure of an accounting line in the financial accounting of sqlFinance (method 1)

Fields					List	
business	account	c_account	contract	organisation	amount	currency
main	118050	151010	Bank	default	150.00	CHF
main	441010	151010	Bank	default	- 200.00	CHF
main	341010	151010	Bank	default	50.00	CHF

Example with three double sided booking, which in the report are split each one into two bookings

In the attempt to keep the bookkeeping as understandable as possible the software usually **changes the representation** of (2) liabilities and (4) revenues. By reversal of the sign the usually negative numbers are represented positively. This function is used particularly within the reports. If lists are grouped according to the type (1 assets, 2 liabilities, 3 expenses, 4 revenues) the program **changes the representation** of **(2) liabilities** and **(4) revenues** from **negative** to **positive values**. The profit in the balance is often omitted, and the **profit** from the **income statement** (- revenue + expense, usually a negative value) is represented with **reverse sign** as a **positive number**. Simple **booking lists** however will still indicate the bookings with their **mathematically correct value: Assets and expense** with usually **positive values**, **liabilities and revenues** with usually **negative values**.

Receivables are to be booked as follows:

- (1) + assets
- (4) - revenues
- = 0

For the assets side can be used (e.g.) a bank, a cash or a receivables account.

For the booking of **payables**, proceed accordingly:

- (1) - assets
- (3) + expenses
- = 0

Instead of booking the expense within the assets (e.g. a bank account), you can also use a liabilities account (e.g. accounts payable). For the expenses or revenues often several accounting lines will be used, like for example a number of purchases to be paid in one single payment, or a number of billing items, that add to one final receivable amount.

Some forms (like purchase, sales, receivables or payables) use presentations with **inverted signs**. While **purchase and accounts receivable** bookings contain anyway usually **positive numbers**, bookings for **sales** and **accounts payable** are usually stored as **negative numbers**, but represented in **the form** as **positive values**. In order to keep a total of zero, usually different bookkeeping forms are used in combination. For example, a **sales batch** will use sales bookings (with reversal) and accounts receivable (without reversal), a **purchase batch** will use purchase bookings (without reversal) and accounts payable (with reversal). To the purchase and sales batches always belongs a

booking form for the **taxes** (e.g. value added tax). The taxable value is usually an obligation, so the tax form uses reverse values.

Booking forms used with sales batches:

- | | | |
|--------------------|---------------------|------------------|
| (1) + assets: | acc.receivable form | without reversal |
| (2) - liabilities: | tax form | with reversal |
| (4) - revenues: | sales form | with reversal |

Booking forms used with purchase batches:

- | | | |
|--------------------|------------------|------------------|
| (2) - liabilities: | acc.payable form | with reversal |
| (2) - liabilities: | tax form | with reversal |
| (4) + expenses: | purchase form | without reversal |

Note that for **each line** in the example above, there could be **several bookings**. Multiple earnings or expenses bookings can represent **entire sales or purchase orders**. Even **accounts receivable or payable entries** may include several bookings for **partial payments** or **payment adjustments**.

The system will automatically track **tax liabilities**. More than one tax type per batch is possible (leading to more than one tax booking per batch). In VAT countries, purchase and sales taxes can be directed to a clearing account, leading to valid report usable for the **tax declaration**.

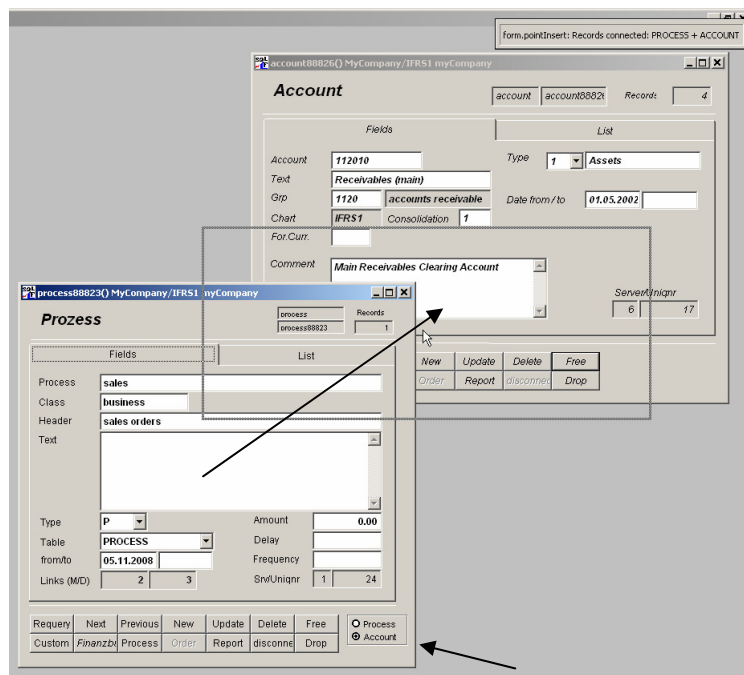
The screenshot displays the sqlFinance Navigator interface with several overlapping windows. The 'Sales items' window is the primary focus, showing fields for Register/Item, Business, Contract, Product, and Units/Meas. Below these are tabs for 'Fields' and 'List'. The 'Fields' tab shows details for a sales order, including Class, Process, Activity, Header, Business, Contract, and Memo. The 'List' tab shows a table with columns for Amount, Profit, and Uniqnr. Other windows visible include 'Tax items' and 'Receivables'. At the bottom right, a 'selection pad' is circled, containing radio buttons for 'Sales items', 'Receivables', 'Taxes', 'Picking', 'Shipping', and 'General Ledger'. The 'Sales items' radio button is selected.

Example of a sales order batch (at left) with booking forms for receivables, taxes and sales items (full version)

The different **booking forms** (e.g. accounts receivable, sales and taxes) can be called from the master **batch form**. Choose the booking form in the **selection pad** at the right bottom end of the batch form and then activate it with a **double click** on the mouse (positioned over the selection pad or over the "detail" key).

4. Process oriented account assignment

sqlFinance makes it possible to **assign accounts** to **processes**. The assignment is made with a **drag and drop** operation. From a **process form**, drag the pageframe of the **"fields"** page over an **account form**. Use the **right mouse key** to start the operation and drag the page over the **account form**, until the **confirming message** appears: **"Records connected: PROCESS + ACCOUNT"**.



**Assignment of accounts to processes
with drag and drop of the mouse
(from left to right, using the right mouse key)**

The **assigned accounts** now can be selected as a **detail** of the **process**. In the **process form**, set the **optiongroup** (at the right bottom of the window) to **"account"**. With a **double click** on the **optiongroup** or using the **"detail"** key (third key from the left in the second column) the **assigned accounts** can be **selected**. If the **account form** is selected this way (**as a detail of the process form**), the **assignment** can be **reverted** for each single account, using the **"disconnect"** key (sixth key from the left in the second key row).

With a **drag and drop operation** from **one process form** to **another process form**, **master processes** can be connected to **detail processes**. This leads to a **process hierarchy**. Several **reports** are available to **view** such a **hierarchical structure**. Starting from the **master process**, **detail processes** and their **accounts** can be viewed in an efficient way. As an example, for the master process **"booking"** a report about the detail processes **„credit“**, **„debit“**, **„interest“** and **„sales“** and the corresponding **accounting** can be established.

Gen.ledger items booking bookfin88773 Records 4

Fields		List	
Register / Step	67 1	Date from / to	15.01.2009
Account / Type	413010 4	Comm/Charges	0.00 0.00
Business	112010 1 Receivables (main)		-6 000.00
Contract	223010 2 VAT Payables		1.00
User/Org.	412020 4 Hardware		
	413010 4 Sales of Services (goods)		-6 000.00
Text	service customer		
Uniqnr	1 67 1	Status	5
Batch	update services 2009.0		
Balance	0.00		

Requery Next Previous New Update Delete Free
 ☒ General Ledger
 ☐ Receivables
 ☐ Payables
 ☐ Taxes

Custom Gen.ledge Gen.ledge Order Report Commit Drop

Selection of accounts in the booking form assigned to the process „sales“ (defined in the batch form)

When **entering bookings**, the **account field** shows a **preselection of accounts** corresponding to the **process**. The **process** is defined in the **batch form**, which works as a **master** of the **booking form**. The **account field** is set up as a **combobox**. With a **click on the arrowhead** at the right of the field, a **list of accounts corresponding to the process** is shown.

Other accounts that may have been used in a **booking entry** of this **batch** or in a **double click query** of this **account field** are **added to the list** as well. Through the **account list** the **combobox** only gives a **recommendation**. **Any other account can be entered**, as long as it **exists** in the current **chart of accounts**.

process/accounts			
Process:	sales	Base Table process (1/24)	01.07.09
Process	sales	sales orders	
Class	business		
Count	4		
Account	112010	Receivables (main)	Main Receivables Clearing Account
Group	1120	accounts receivable	
Account	223010	VAT Payables	VAT Value Added Tax Clearing Account
Group	2230	tax VAT	(payables and payments)
Account	412020	Hardware	Computer Hardware (PC)
Group	4120	sales goods	
Account	413010	Sales of Services (goods)	Installation and Maintenance
Group	4130	sales of services	

Sales process and corresponding accounts (report associated to the process form)

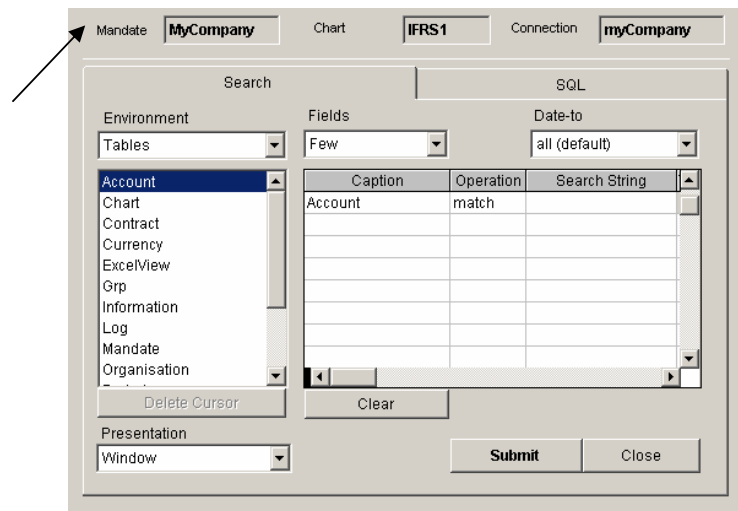
To view **processes** and their **account assignment**, use the **reports** associated with the **process form** (key **"reports"** in the second row of keys). To view **bookings** and their **totals** according to **processes and accounts** however, the **period** must be considered as well. Consequently, these reports can be found in the reports section of the **period form**.

Mandate: MyCompany	totals per booking process		01.07.09
Period: 2009.1	Base Table Process process	period (1/22) like "%sales%"	01.01.09 - 31.12.09
Process sales			
1 Assets			
Account	Debit	Credit	Total
1120 accounts receivable			
112010 Receivables (main) (CHF)	13,988.00		13,988.00
	13,988.00		13,988.00
Total Type 1 (Assets)			13,988.00
2 Liabilities			
Account	Debit	Credit	Total
2230 tax VAT			
223010 VAT Payables (CHF)		-988.00	-988.00
		-988.00	-988.00
Total Type 2 (Liabilities)			-988.00
4 Earnings			
Account	Debit	Credit	Total
4120 sales goods			
412020 Hardware (CHF)		-7,000.00	-7,000.00
		-7,000.00	-7,000.00
4130 sales of services			
413010 Sales of Services (goods)...		-6,000.00	-6,000.00
		-6,000.00	-6,000.00
Total Type 4 (Earnings)			-13,000.00
Total Process (sales)			0.00
Profit Process (sales)			13,000.00
Grand Total			0.00
Profit Total			13,000.00

Booking process "sales" with account groups, accounts and their booking totals, per period "2009.1" (report associated with the period form)

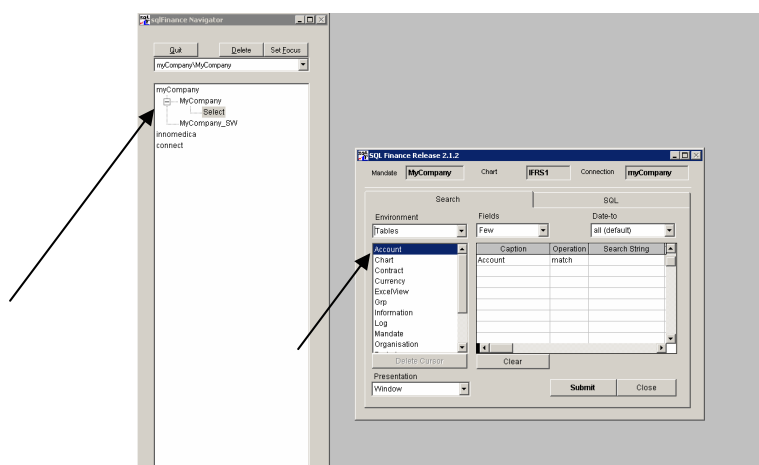
5. Application Overview

The application starts with a **login procedure** that leads to a **selection window**. A **unlimited number of forms** can be opened. Each form will give access to a **table** and offer either a **list view** with several records in a grid or a **field view** with field headers and values. With the **"master"** and **"detail"** buttons you can open **further forms**, referring to the current record data of your initial form.



Selection tool within the mandate "myCompany"

Several in such a manner connected forms are organised in a **cascade**. With simple clicks on the **"master"** and **"detail"** buttons the user can move up and down in the cascade. In the cascade only the **currently active form** is visible. With **several open cascades** (each one again with several forms) the application remains **clearly structured** and **easy to handle**. When desired, you can **free a form** from the cascade (button "release"/"free", on the right side of the upper key row) and then open further forms in a **new cascade** using the **"master"** or **"detail"** buttons respectively.



Selection tool with a treeview

The screenshot displays the sqlFinance Release 2.1.2 interface. On the left, a tree structure shows the hierarchy of forms: connect, myCompany, BATCHSALES86421, contract86424, address86426, booksales86422, and Innomedica. The 'Sales' form is selected. The main area shows a cascade of forms: Address, Contact, Contract, Sales, and Sales items. The 'Sales items' form is the active form, showing fields for Register/Item, Business, Contract, Product, Units/Meas, Shipped, Price/Disc, and a list of items. Arrows point from the 'Sales' form to the 'Sales items' form and from the 'Release' button to the 'Sales items' form.

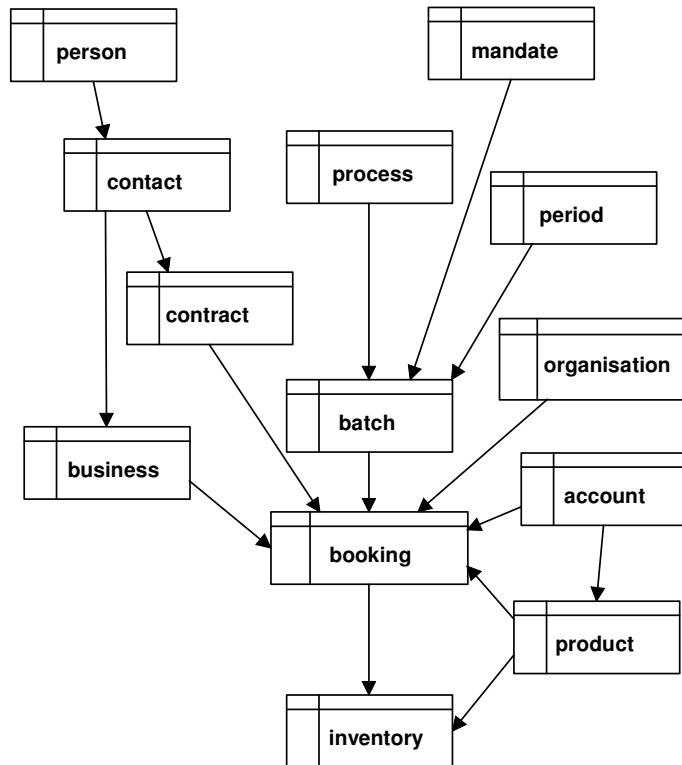
Cascade of forms with master ("Sales") - detail ("Sales Items") and release button

Use the window with the **tree structure** in the left half of the screen (see illustration above) to overview and handle **several groups of forms** (cascades). Each form of a cascade can be **made visible** by clicking the **right mouse button** in the tree structure. For the **later retrieval** of selected data, forms can be pulled over a **depository tool** ("records" tool), in order to **store** a specific data selection.. To the depository entry a comment can be attached. The saved forms and their data selection can later be **recalled** with a double click on the "select" key of the "records" tool.

By **"drag and drop"** with the mouse data sets can be copied from one form to another. With this technique you can **copy bookings** from a one period/mandate to another period/mandate. A **repeat function** makes it possible to **copy entire booking lists**.

The form cascade follows the hierarchical structure of the **data model**. For the user's convenience, the model was kept as simple as possible. The main elements of the model are shown in the flow chart below:

sqlFinance data model (overview)



**In sqlFinance, the data model drives
the cascade order of the forms**

The data model's core element is the **booking line**, to which many reference tables (e.g. currency, account, organisation etc.) correspond. In **mathematical terms**, a bookkeeping system can be considered as a **multidimensional structure**, in which different **parameters** – with the amount as the **resultant** – are directed to the **booking line**.

1. Booking line

The booking line contains basic values and parameters. **Basic values** are simple entries in a field. Their value is not verified by the system. **Parameters** however refer to an entry in the appropriate **reference table**. For example, an account value – in order to be accepted in a booking record – requires an entry in the account (master) table.

Basic Values	Parameters
<ul style="list-style-type: none"> - Text - Amount - Line Number - Date 	<ul style="list-style-type: none"> - Period - Account - Contract - Business - Organisation - User - Currency

Throughout the application, **master tables** can be accessed by a **double click** on the **referenced field**. Double clicking in the “account” field of the booking form opens an “account” form with records corresponding to the value entered in the “account” field. The **lookup action** is based on the **value** the user has entered in the reference field. This value can include **wildcards** like “MyCompany%”, meaning in this case that the lookup should list all records with a contract name beginning like “MyCompany...”. Enter a **search value** in a parameter field and use a double click to select a **master form** with a list of corresponding data. Note that a booking entry is only accepted when **all parameter values entered** lead to **one and only one parent entry** in the respective table.

Based on field entries in the **contract table**, the system can set a **default value** for the **account** and the **organisation**. While the contract name is typed in the contract field of the booking form, a **whichpen feature automatically checks the master contract table**. As soon as it finds only one contract (mostly after three or four characters), it will **auto finish** the contract typing and **copy** the **account and organisation defaults** from the **contract record** into the corresponding fields of the **booking form**. The cursor then is refocused at the amount field.

Through **limitation of the typing** to few characters, the entry of accounts receivable and payable transactions can be made **very efficient**. Through the contract’s default values a **consistent assignment** of **account** and **organisation values** is assured. During the entry of booking data, the user doesn’t need to lookup any values for verification. So, the **typing is limited to a few characters** for the identification of the contract name and entry of the amount.

2. Batch

Basic Values

- Reference
- Header
- Text
- Date
- Status

Parameters

- Mandate
- Period
- Process
- Contract
- Business
- Organisation
- User

A number of **booking records** are grouped in a **batch**. For **new bookings** entered, the system will use the **batch defaults** (contract, organisation, user, date). Later, when a contract value is entered manually, the previously described help ("whichpen") feature starts working again and **overwrites** the batch default values with **default values of the contract**. In order to be able to enter new booking records, a **booking window** should always be opened in a **cascade** with the appropriate **batch ("master" entry)**. Otherwise all the (batch) default values have to be entered manually.

Batch field structure with status set to value 5 (open)

Using the fields „**class**“, „**process**“, „**activity**“ and „**header**“, batches can be **organised** in a very efficient way. The most important is the field „**process**“. Batches with the **similar booking patterns** are **summarized** in a **process**. While the **process** describes the **general pattern**, the **activity** describes the **specific pattern** of the current batch. For example, if we take the process „**depreciation**“, then the activity could be „**depreciation hardware**“ and the

header „**pc's and servers 2009**“. Likewise, to a process „**bank interest and expenses**“ would belong a **number of batches**, one batch per bank account, The field „**class**“ is used to group the processes. In the batch form, while typing characters into the field „**process**“, open the process with a **double click**. The characters entered are used as **search values**. Select a process record in the data list and leave the form with the key „**quit**“ or with the hot key **ctrl-F9**. With the return from the process to the batch form the values for the fields „**process**“, „**class**“ and „**activity**“ are transferred as well. All the user still has to do is to adjust the value for the field „**activity**“ and enter a value in the „**header**“ field suitable for the new batch.

3. Close and Commit

Batches have a **status field**. With the function key „**commit**“ a batch can be registered for the **final balance and income statement**. At this time the **sum of all bookings** in the batch must result in a **value of zero**. If this requirement is fulfilled, the status field shows the value „1“ (closed). The final **balance and earnings statement** may only include batches with a **status value of "1"**. Up to this moment (of closing the year definitively), reports with open and only partially committed batches can be generated as well. With help of the status field you can include or exclude certain batches and generate different reports. This feature is practical during the **closing of the period**. Some batches used for **internal calculations** may finally **never be committed**, whereas for the **revision**, a **final report** based on **only committed batches** is necessary.

sqlFinance Report Preview - balance_slim_fc_comp.frx - Page 1 - 2

Mandat: Innomedica		Innomedica		06.03.07	
Period: 2004.12006.1		Balance: Ist/Ist		Währung: CHF	
Konto	2004.1	2005.1	Konto	2004.1	2005.1
1 Aktiven					
1100 Wertpapiere (kurzfristig)			2110 Eigenkapital		
11000 Wertpapiere-Bestand (G/H)	-0.00	-0.00	211010 Aktienkapital (G/H)	800,000.00	800,000.00
11010 Aktien-Bestand (G/H)	136,912.40	112,000.01	211020 Res. Reserven (G/H)	400,000.00	400,000.00
11011 Aktien-Bestand (G/H)	486,637.59	370,846.58	211030 Reserven folgende Aktien (G/H)	294,959.10	386,387.28
	623,548.99	482,846.59	211040 freie Agio Reserven (G/H)	290,240.90	110,317.22
11020 eigene Aktien (G/H)			211050 Gewinnwartung (G/H)	154,612.25	470,000.00
11020a eigene Aktien (G/H)	288,411.50	386,387.28		876,887.76	826,703.47
11020b eigene Aktien (G/H)	288,411.50	386,387.28			
11030 Kasse (G/H)			2120 Kreditlinien		
1103010 Kasse (G/H)	506.27	270,806.68	22010 Kreditlinien (G/H)	9,130.00	16,877.26
1103020 Kasse (G/H)	5,225.96	6,088.01	220110 ARV (G/H)	1,887.70	1,887.70
1103030 Kasse (G/H)	8,293.23	378,484.69		18,717.76	17,444.96
11040 Fremdkapital (langfristig)			21300 Fremdkapital (G/H)		
1104010 Fremdkapital (G/H)	-53,171.00	-690.00	213010 Fremdkapital (G/H)	22,609.00	73,704.00
1104020 Fremdkapital (G/H)	7,190.45	-0.00		22,609.00	73,704.00
1104030 Fremdkapital (G/H)	9,232.50	0.00	2180 Abgrenzung passiv		
1104040 Fremdkapital (G/H)	-37,888.04	-460.00	218010 aus Trans. Passiven (G/H)	5,380.00	5,380.00
1200 Immaterielle Vermögensgegenstände				5,380.00	5,380.00
120010 Immaterielle Vermögensgegenstände (G/H)	11,800.00	0.00	Totale Typ 2 (Passiven)	1,008,594.46	925,262.42
120020 Sachanlagen			Overall Total	-116,488.77	222,898.12
1200210 Sachanlagen (G/H)	-0.00	-0.00			
1200220 Sachanlagen (G/H)	-0.00	-0.00			
Totale Typ 1 (Aktiven)	893,866.87	1,146,648.66			

Seite 1

Seite 2

Example of a yearly report with foreign currencies and previous year comparison (with courtesy of Innomedica Holding Inc, Zug)

In a similar way to the commitment of a batch a **period** can be **closed**. In the period window, use the "**commit**" key again to close the period. A batch in the new period with bookings will be generated, each booking with the **total per account** of the old period. Note that the totals will only be calculated over **committed batches** with a status of "1".

If you close a **subperiod** into a **main period** (e.g. month-end closing into the current year), totals from the **balance** (types "1" and "2") as well as the **income statement** (types "3" and "4") will be generated. If you close the **main period** into a **new main period** (usually from the previous year to the new year), **only the balance totals** (types "1" and "2") and an entry for the **profit and/or loss** of the period will be generated. The **sum** of these **closing bookings** results again to a **total of zero**.

All **commit** and **closing** functions are **reversible**. Closed periods can be reopened and closed batches reactivated. No complicated procedures for save and restore are necessary in this process. The required **consistency** for the **revision** is not obtained through complicated program functions, but rather through a **non redundant data model**, which is mainly based on the **simple cascade (period - batch -booking)**.

The screenshot shows the 'Period' window with the following fields and values:

Fields		List	
Period	2008.1	Date from/ to	01.01.2008 31.12.2008
Mandate	MyCompany	Date new	01.01.2009
Contract	default	Close account / type	218010 2
Business	main	Chart/Currency	IFRS1 CHF
Process	closing	Status	5
Org / User	default		
New Period	2009.1		
Type	1 year closing		
Datagroup	1 without organisation		
Comments			

Buttons at the bottom: Requery, Next, Previous, New, Update, Delete, Free, Custom, Mandate, Gen.ledge, Order, Report, Commit, Drop.

Period 2008 with status set to value 5 (open)

4. Contract and business

The **contract** and the **business** fields are the key to the **contact management** ("Customer Relationship Management - CRM"). The **CRM** stores detailed information about the **contract partner**, like address, telephone number, civil status, etc. A **contract** or a **business** is always entered as a **detail** to the **contact** (private, business contact). The **contract** registers thereby the **contracting party** to which the **booking line** relates. For **invoices** this is the **customer**, for **purchase** transactions the **supplier**, for **bank** transactions it is the **bank account**, for **insurance transactions** the **insurance policy**, for a **hirer** the **hiring contract**, for an **employee** the **employment contract**.

The **business** is from a technical point of view built up similarly, but rather used for the **summing up** of detail activities (e.g. a number of **customer orders**) to a larger **project**. Since you can capture both the **contracting party** as well as the **business field** on the same booking line, it is possible to get **purchase orders** directly related to a **customer project**. This is important for more **trade oriented companies** and will make it possible to avoid complicated constructs with **project accounts** in the general ledger. In a similar way, **overhead costs** can be assigned to **internal projects** or **business fields**.

5. Product, product line and account assignment

With the application modules **purchase orders**, **sales orders** and **portfolio management** it is possible to enter **product** information. Products can be organized in **item lists** (so-called **bill of materials**). With the product information included the following booking line results:

Product-related data of the booking line (full version)

Basic Values	Parameters
<ul style="list-style-type: none"> - Units - Price - Discount 	<ul style="list-style-type: none"> - Product (as part of a product line) - Measurement - Tax

Purchase orders, **sales orders**, **portfolio management** and **payroll** use a similar structure for the booking record. As soon as the system finds an entry in the **product field** the **account assignment** is controlled not over defaults of the contract, but over the **product field** and the account assignment information of the **product line**.

When the user confirms a new entry, the program examines the **calculation** of amounts in the booking line, using the formula:

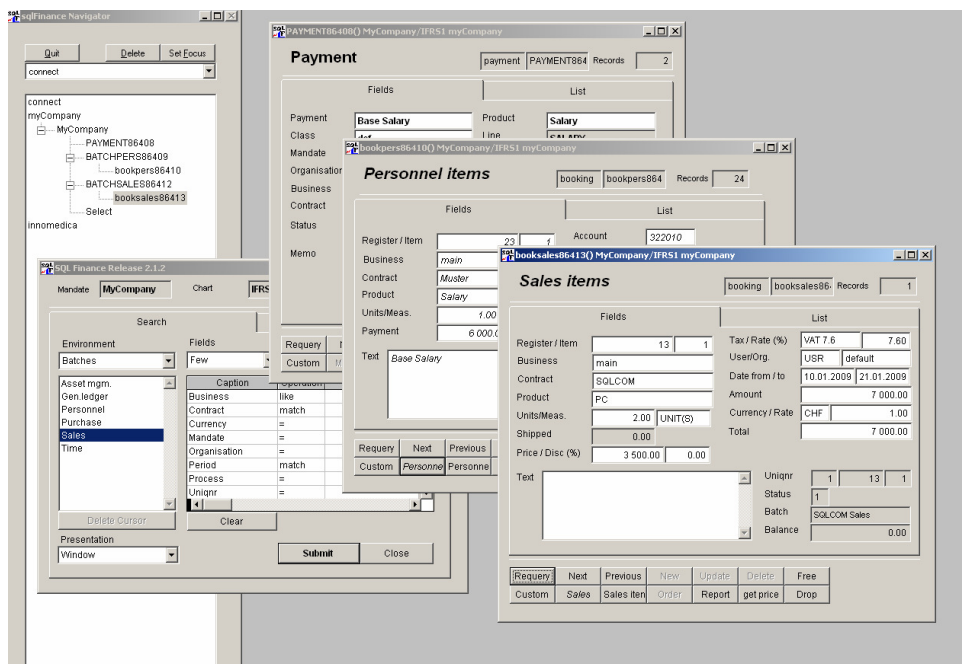
- **units * price - discount = amount.**

The same examination is done for **foreign currencies**:

- **amount * currency_rate = total**

Note that, if the **total** is varied, the software will adjust rather the **rate** than the **amount**. This is important for (quite frequent) **rounding effects** that normally should affect **neither foreign nor home currency amounts**.

Special fields make it possible to enter **commissions** and **expenses** in the **portfolio management** and in the **general ledger**. If the batch includes bookings with **taxes**, for each tax an **automatic booking** is added to the batch and therein the **tax total** traced. Different **tax rates** per batch are possible. With this approach **tax obligations** can be examined at **batch level** and be at the same time get **summarized** in an **account** for the **current period**.



Booking examples for portfolio management, sales and the salary statement (full version)

The application structure in the **payroll module** is similar to the sales orders module. Again the reference to a **(service) product** and the **product line** will produce the necessary information for the **account assignment**. Monthly or annual **employee payments** and **social benefit charges** can be stored in **payment** and **transfer tables**. To start a monthly payroll, simply drag a selection of **payments** over a **payroll booking window**. The program will in a first step generate the bookings for the **payments**, in second the bookings for the **social benefits**.

The **transfer function** for the calculation of social benefits can also be used in the **financial accounting** or in the **sales module** for the generation of **additional bookings**. **Payroll bookings** are preferably booked to a **monthly** (intermediate) **period**, so that in the **general ledger** only the **closing entries** with a **total per account** appear (totals per **cost center/organizational unit** are also possible). This way the general ledger will not include payroll bookings and the details of the salary payments will not be available in queries.

6. Foreign currencies

The advantages of **single sided bookings** become specially apparent with the booking of **foreign currencies**. Since the **booking line** includes only **one single account value**, there is no problem in the **assignment** of the foreign currency to a debit or credit account. Through the **consistency** of **this design** working with **foreign currencies** will be **comfortable**.

Bookings on **foreign currency accounts** can be listed with their **foreign currency** or in **main currency value**. At the moment of **period closing**, **foreign currency gains** or **losses** can be efficiently **calculated** for the **income**

statement. The **foreign currency** of an account can be entered in the **account form**.

In the following find a **data sample**, based on the period **"2008.1"** and the report program **"foreign currency (totals and rates)"**:

Mandate: Innomedica		foreign currency (totals and rates)			06.07.09
Period:	2008.1	Base Table	period (629)		01.01.08 - 31.12.08
		Booking account	file "%11805%"		
<hr/>					
1 Assets					
Account		Amount FC	Rate		Total
<hr/>					
1180 Liquid Assets					
118051	CreditSuisse CHF	CHF	111,419.68	1.00	111,419.68
					111,419.68
118052	CreditSuisse USD	CHF	-3,745.19	1.00	-3,745.19
118052	CreditSuisse USD	USD	34,428.18	1.17	40,388.79
		USD	34,428.18	1.06	36,643.60
					36,643.60
118053	CreditSuisse EUR	CHF	409.93	1.00	409.93
118053	CreditSuisse EUR	EUR	355.56	0.33	117.57
		EUR	355.56	1.48	527.50
					527.50
					148,590.78
Total Type 1 (Assets)					148,590.78
Grand Total					148,590.78

Sample Report for the clearing of foreign currency gains and losses (Innomedica 2008)

6. Data Management

Before you start working with **sqlFinance** you should first organize your **master data**. To the master data belong (among other things) the mandate, the chart of accounts, the period structure, the various contracts and the organization.

The organization of the **master data** is to be aligned with the **business structure**. Define your **internal organisation** (similar to the common „cost centers“) as well as **contracts** for your customers, suppliers, financial business partners like banks and insurances, and your employees. Material and services are to be registered as **products**, grouped into **product lines**. The **accounts assignment** can be controlled in the **general ledger** through a **default in the contract**, in the **purchase and sales order** through the **product line**. The **payroll** will use the product as payment classification and refer for the account assignment to the **product line** as well.

Find hereafter a **short overview** of the **master data**.

a. Connection

As soon as you open **sqlFinance** you have to establish first a **connection** to the **target database**. For this purpose use the **connection tool**. You can either open a connection to a **local data base** (ODBC type set to **"local FoxPro"**) like in the connection **"myCompany"** for the sample database **"myCompany"**, or to a **server data base** (ODBC type set to **"SQLServer"**). In the connection tool **sqlFinance** specific information about the **physical database** and the **ODBC connection** is saved.

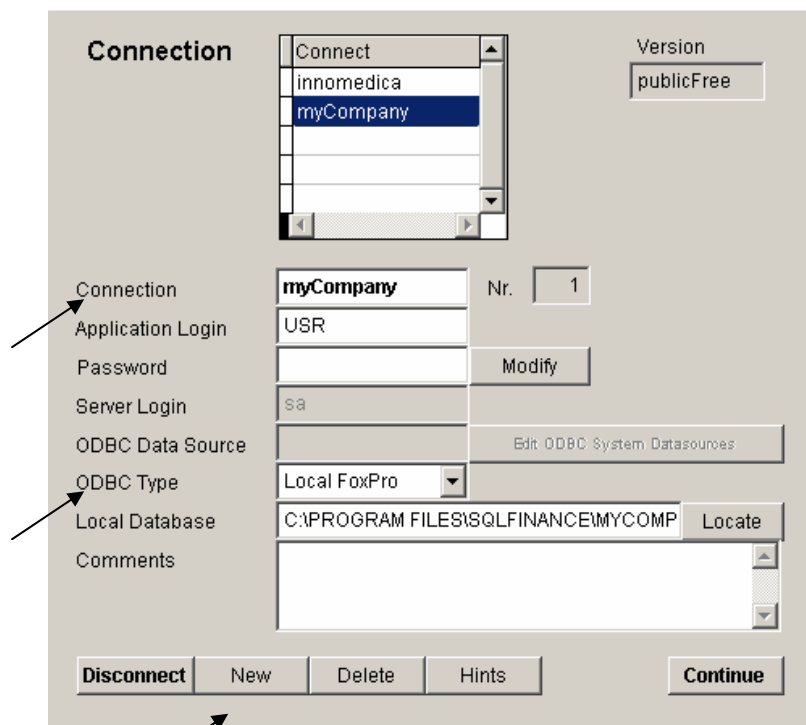
If you open **sqlFinance** for the first time, you will get connected to the sample database **"myCompany"** (in the subdirectory **"myCompany"** of your sqlFinance installation). In the connection tool, with a click on the key **"connect"** you can open a connection to the database **"myCompany"**. With the button **"continue"** you get to the next form, the **mandates** tool. Choose the mandate **"myCompany"** and click again on the button **"continue"** to get to the **selection tool**, the main search form of sqlFinance.

Add and connect to a new database

In order to make a connection to a **new local data base**, copy the database **"myCompany"** into a new directory. You will find the **"myCompany"** database in the **sqlFinance** install directory of your computer (e.g. **"c:\Program Files\sqlFinance"**). You may rename the directory (e.g. **"yourCompany"**). In the connection tool, click on the button **"new"** to start entering a new connection. You can now enter the **name** of the connection and the **target directory** ("local database"). Set the **ODBC type** to **"local FoxPro"**. An unlimited number of databases is possible. Likewise the number of mandates per database is unlimited as well. Note that for the database **"myCompany"** the pre-set value for the **"user login"** is **"USR"**. An entry for this user **must exist** in the table **"usr"**, with the table "privileges" regulating access to all tables and reports. In these tables **further users** with possibly **reduced authorizations** can be defined.

Databases like **"myCompany"** can be **renamed** at any time by changing the file names **"myCompany.dbc"**, **"myCompany.dct"** and **"myCompany.dcx"** in the target database directory. The directory can be renamed as explained above, or the database be copied into another directory in any place on the workstation or

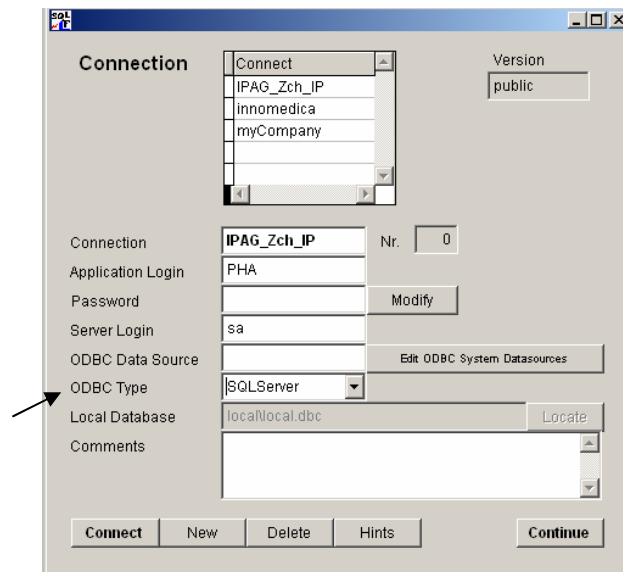
in the network. After renaming you also have to change the **connection** or establish a new one. Working with local databases, no further tools are needed for the handling of the connection.



Access the physical database "myCompany" with the "Connection tool"

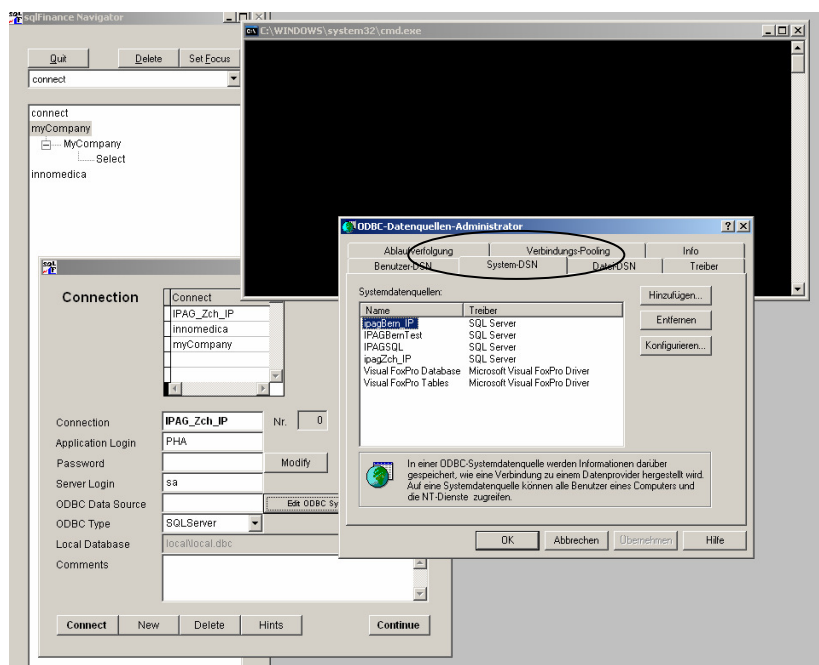
For the access to the server data base **sqlServer** however an entry on the **operating system level** must be provided as well. The server can be positioned in the **local area network** or in addition **remotely** connected over the **Internet**.

The **system parameters** and **meta data** of **sqlFinance** are stored in the **"sqlf_db"** database in the **"data"** directory. In this database you can define your **own tables and fields**. Efficient the **tools** for the **administration** of these **meta data** are available.



Connection tool to the Server data base "IPAG_Zürich"

In order to make a connection to a **server data base**, set the value of the field **ODBC type** to **"SQLServer"**. Click on the button **"Edit ODBC System Data Sources"** and select in the ODBC manager **"user DSN"** or **"system DSN"**. Enter new a connection with the Driver set to **"SQL server"** with **"add"** and click on **"finish"**. Now you can enter the freely selectable **name of the connection**. Note that the name in the **connection tool** must be **identical**. Configure now this connection and identify the correct **server** and the correct **data base**. Note that the database must exist on the server. To test the connection, use the **"connection test"** function (located at the end of the dialog). If a **connection** is possible, the feedback will be **"successful"**.



"Edit ODBC System Data Sources" (started from the selection tool)

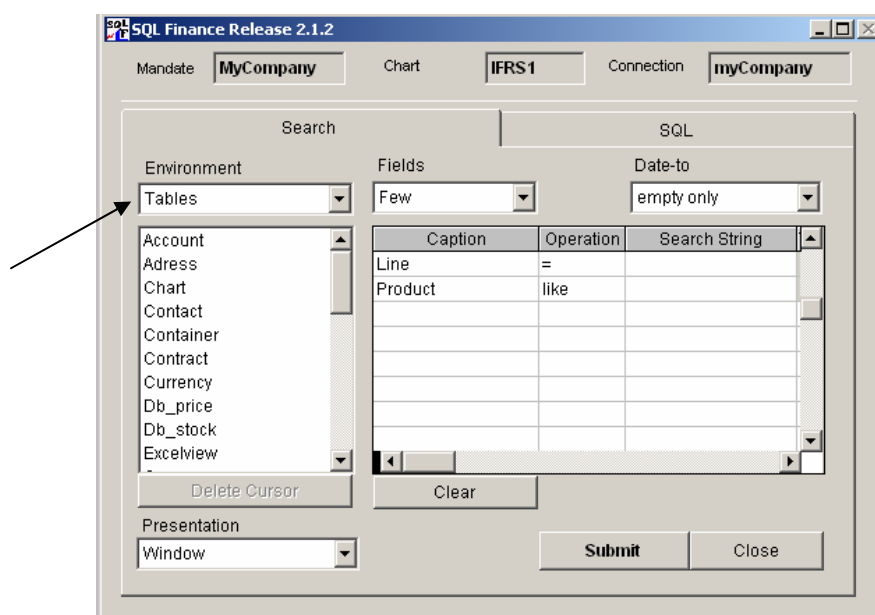
As soon as a valid **ODBC connection** is present, enter the name of the connection in the field "**ODBC connection**" in the connection tool. Use the name of the user for the login in the **operating system** in the field "**server login**" (e.g. "**sa**" for the **system administrator**), in order to be accepted in the **access control of the server database**. In the field "**application Login**" you can identify yourself concerning your **rights of access** within the **application functions of sqlFinance**, for example with your personal or company name. Through the entry of a **password** you can secure the access **exclusively**.

It is possible to have **several** connections open at the **same time** and for example **transfer data** over different connections from one database to another. As soon as you click on a **form**, the **connection** belonging to it is activated. With **drag and drop** you can easily **copy** data of a form to another, even if the forms belong to two different connections. This can be an effective procedure to transmit data from a data base to another one.

If by mistake you delete an existing **connection** in the connection tool, press the button "**new**" and enter the name of the deleted connection. As soon as you click on "**connect**", the system takes over the "old" data.

b. Selection tool

After opening a **connection** and the selecting of the current **mandate**, you get to the **selection tool**, an important aid for the **search of data** in a data base like for example "myCompany". The selection window can be called from the **menu** (DATA/search) as well or by **right clicking** on the position „**select**“ in the **treeview**.



The selection tool of the sqlFinance full version

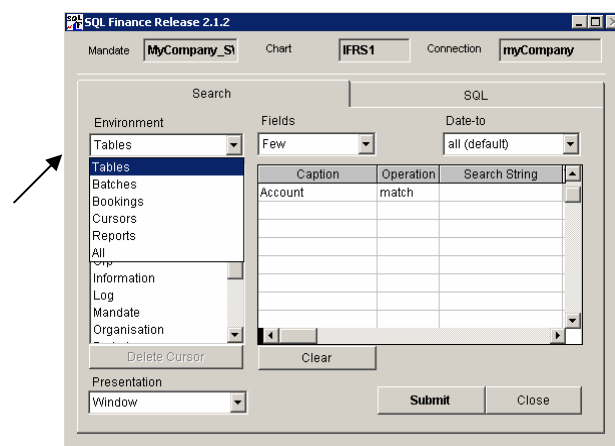
The **selection tool** offers a **first access** to an active data base and enables the user to execute a **query** according to his **search criteria**. Using the search values entered the selection tool will generate an **SQL statement** (Standard Query Language call) and execute it. The retrieved data is read into a **cursor**,

stored in the **flash memory** of the workstation and presented in a **standard form** on the user's screen.

From such an **initial form** the user can start building a **cascade** of additional forms. Using **master** and **detail buttons** on the form or through **double clicks** in certain fields the **cascade** can be expanded. Advanced users can **modify the SQL statement** on the second page of the pageframe in the **selection tool** (title: „SQL“). On this page the **order** of the selected data records can be modified as well.

1. Table selection

The table to be queried can be selected in the **“selection tool”**. According to the setting of the upper listbox (**“environment”**) the lower listbox will show a selection of **available tables** (depending on the **“full”** or **“public free”** version and the **access privileges** of the user):



Selection tool with the table options

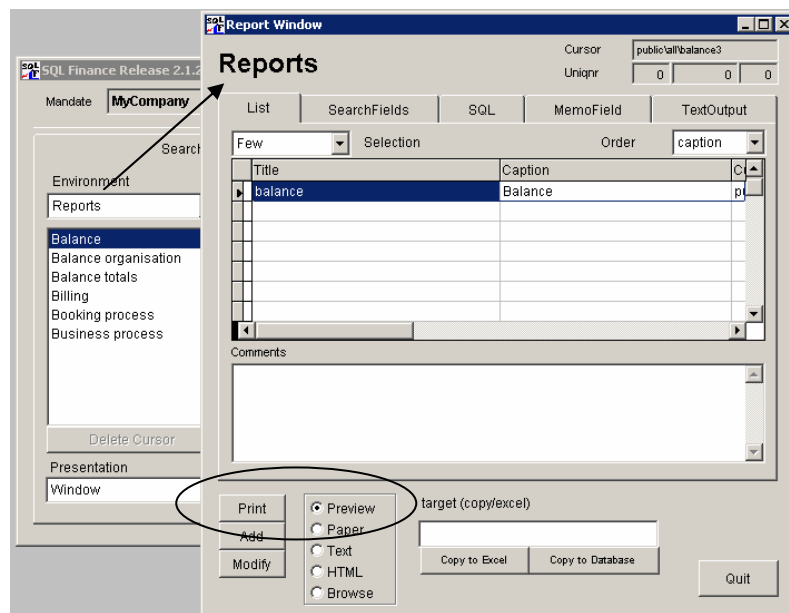
- **Tables**
A selection of available tables for the **contact management** ("address", "person", "contact", "position"), for the **logistics** ("container", "property", "product", "inventory", "measurement") and for a more **general use** ("process", "price", "tax", "transfer", "payment"); these tables are all mainly **parameters** and their **descriptive supplements** (e.g. the products and their prices).
- **Batches**
Application specific **batch views** for the **general ledger** and the modules **purchase, sales, personnel, portfolio** and **time management**.
- **Bookings**
Direct access to **bookings forms** (booking forms are usually selected as detail of a batch form). The master batch form can be activated from the booking form; besides general ledger bookings there are bookings from the modules "receivables", "payables", "purchase", "sales", "inventory", "shipping", "personnel/payroll", "production", "tax", "portfolio management" and "time management".

- **Cursors**

Selected data is kept in cursors. **Cursors** may be **stored and reselected at later time** (not active in current versions, replaced with the "records" tool)

Reports

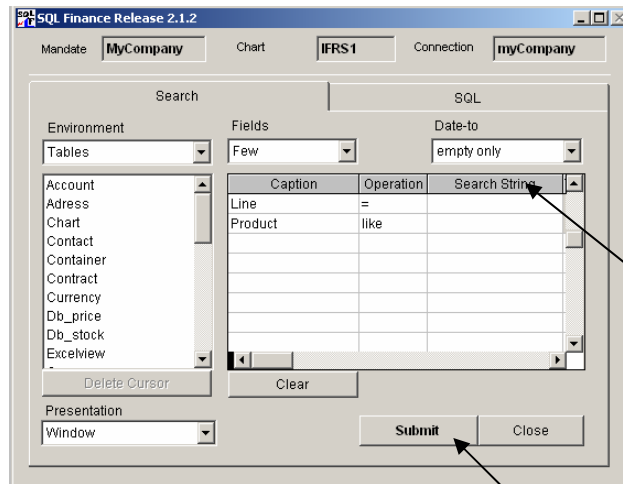
Preferably reports are selected from a form, using the reference to a current record (ex. a period, an account or a client contract). In some cases however, the reference to the current record may not be desirable (e.g. a selection over many periods and many contracts). In this case the report can be started from the selection tool. All data of the current database (over all mandates) will be selected, under the condition that they satisfy the query criteria entered by the user.



left: selection tool, right: report window (a doubleclick on line "balance" in the selection tool opens the report window)

2. Search values

When the table to be queried is selected in the "selection tool", the **grid** to its right shows a list of **search fields** for this table with a column for the entry of **search values**. Several search values can be used in a query. The number of fields to be shown in the list can be set in the **"fields" listbox** ("few", "many", "all").



column "search strings" in the selection tool

3. Query execution

With a click on the button "**submit**" the **SQL statement** is generated and executed (e.g. select a company with the name „myCompany“ in the address table). According to the value in the listbox "**presentation**" the query will show a **form** or a simple **browse list**.

If the query is too long (very rare), it can be **interrupted** with the **ESC** key. If the query is successful, the **application** form is presented and the selection tool hidden in the **cascade**. The next selection step is often the query of **further details** to a current record in the selected list. The selection tool can be **reactivated** with use of the **menu** or a click in the **treeview**.

c. Mandate

As soon as a connection is established, the system activates the **mandates tool**. A Database can include an **unlimited number** of mandates, whereas mandates typically represent **companies in a holding** or any other **entrepreneurial grouping**. Before the selection of data in the selection tool you have to **choose the current mandate** in the list presented in the grid. Then you click on the button "**continue**" to leave the "**mandates**" form and get to the **selection tool**.

Note that not all tables are **mandate specific**. Data for the **contact management** (CRM customer relationship management) is **not limited** to a single mandate but available over all mandates of the current database. Accordingly, a **database** can include **several mandates**, but only **one single CRM**. If you want to assign a different contact management to each mandate, it is better to organise each mandate in a separate database.

In a similar way, the **chart of accounts** is mandate specific. However, **several charts of accounts** can be registered in a database. The **assignment** of the chart to the mandate is entered through a **default value** in the **mandates form**. It is possible to **change the chart** of the mandate at **any time**. The system can handle **more than one chart per mandate**, but this feature is only recommended for **advanced users** and **special requirements**.

Mandate

Mandate	Text	Chart	BookStyle	Number
MyCompany	MyCompany AG	IFRS1	1	1
MyCompany_2	My Company_2	IFRS1	1	2

Reselect Close Continue

Mandate "myCompany" in the tool "Mandates"

Simultaneous access to **several mandates** is always possible. If required, records can be **dragged** from one form of a **first mandate** over another form of a **second mandate** (using drag and drop). When working with several connections and mandates, it is easier to use the **treeview** (on the left of the screen) and to activate from there a **previously selected form** or the **selection tool**. Note that the selection tool is always set to the **current mandate**, that is the mandate of the **last activated form**. If there is no active form for a mandate, use the **"connection"** and **"mandates"** tools to activate the selection tool with the **correct mandate setting**.

Mandate mandate MANDATE88C Records 2

Fields		List	
Mandate	MyCompany	Period	2009.1
Title	MyCompany AG	Xusr	USR
Holding		Contract	default
Chart	IFRS1	Account	151010
Currency	CHF	Booking Style	1
List_number	2		1SSA (single sided acc.)
			2PSA (double sided acc.)
Text	Master DB for MyCompany		
		Server / Uniqnr	6 1

Requery Next Previous New Update Delete Free
Custom Master Period Order Report Commit Drop

Mandate form with current record "myCompany"

A **new mandate** can be entered in the sqlFinance form (activated from the selection tool: tables, mandate). With a double click on **"mandate"** a form is activated. After a click on the button **"new"** you can enter the new mandate and confirm with the **„update“** key. Then, the software will ask you if you want to consider the new mandate as the **current mandate**. If you answer with **"yes"** the **mandates tool is activated with the new mandate**, and after your **"quit"** click the **selection tool** is presented with the **new mandate** set as the **current mandate**.

d. Chart of accounts

In the database "**myCompany**" an **IFRS** chart of accounts, adapted to the needs of small and medium size companies, is available. Other charts and account entries can be easily added. In order to enter a **new chart of accounts**, set the „**environment**“ field in the selection tool to „**tables**“. With a **double click** on the entry "**chart**" a form for the editing of the chart of accounts is opened. Click on "**new**" to start entering an new chart. With the **detail key** "**account**" (third key from left in the second line of keys) you can activate the **accounts form** in the cascade and enter new accounts in a similar way.

The **accounts form** can also be activated with the **selection tool**. Again, set the "**environment**" to "**tables**", and with a double click on the entry "**account**" get a form to enter new records. If you wish, you can open in **another cascade** the **sample chart of accounts "IFRS1"**. View the accounts using a **report** (key "**reports**" and then a double click on "**preview**"). In the accounts form you can see the entered accounts in the "**list**" page (page two of the pageframe). Please remember that after completion of data entry the **chart value** in the **mandate form** must be set to the **new mandate**. Only then the new booking entries will consider the **new chart of accounts**. **Preset values** for accounts in the **contract table** may need to be adjusted as well (and in the **line table**, if you use **logistics** or **payroll**).

Form "Chart of accounts"

Accounts are structured in "**groups**" and "**types**". Only the **mathematically** necessary minimum of **four account types** is used (1 assets, 2 liabilities, 3 expenses, 4 earnings). This keeps the application slim and consistent. For other account types like "taxes" and "other income" rather use the grouping structure.

Form "Account"

The **grouping of the accounts** is important for the presentation of data in the reports. Please check the **IFRS chart of accounts** to get an **example** of account grouping. Over the „**groups**“ of the accounts you can establish a **multi layer contribution analysis**. The accounts can be attributed to „**parts**“ and within these „**parts**“ to a **sorting number**. This way, e.g. a **first layer** can show material purchase and sales, a **second layer** further project expenses, and a **third layer** general administration costs. In a **fourth or fifth layer**, finance expenses and revenues, and tax estimations can be additionally considered. **Reports** for the use of multilayer contribution analysis can be found in the report list of the form „**period**“ (click on the key „reports“ in the period form).

Every chart of accounts should include a **closing account**. This account is needed for the **closing** of a **period**. If the company is profitable, the closing account should be defined as part of the **liabilities** (type 2, usually in the equity group). In case of losses, the losses might be shown in a closing account of the **assets** group (type 1).

Fields		List			
account	text	date_from	date_to	chart	
112010	Receivables	01.05.02		IFRS1	
115010	Stock	01.05.02		IFRS1	
115090	Stock Adjustments	01.05.02		IFRS1	
116010	Options	01.05.02		IFRS1	
116090	Option Adjustments	01.05.02		IFRS1	
117010	Money Market	01.05.02		IFRS1	
117090	Money Market Adjustments	01.05.02		IFRS1	
118010	Cash	01.05.02		IFRS1	
118050	Banks	01.05.02		IFRS1	

Example of an IFRS chart of accounts

e. Period

Batches and its bookings are normally associated to **periods**. A typical period is the **current year**, lasting from the 1st of January to the 31st of December (other dates are possible). At the period level, a closing account must be entered. When the period is closed, totals per account for the period will be entered as opening bookings of the new period.

Instead of periods, **sub periods** can be used. While **yearly closings** only report **balance totals** for each account (1 assets and 2 liabilities) and a single entry for the **balance profit** to the new period, **sub periods** will report totals for **all four types** (1 assets, 2 liabilities, 3 expenses, 4 earnings) and **no profit/loss entry**. The use of sub periods is not mandatory, but **highly recommended** for **payroll applications**, as well as the handling of high **debit or credit volumes**. Sub periods may be named like 2009.01, 2009.02 etc, periods like 2009.1 etc.

If the **sales or purchase order module** is used, batches can be **sent directly** to general ledger as part of period entered in the sales or purchase batch record. However, it is also possible to **generate a new batch** with **only totals of sales items** (but still the details of the receivables/payables and tax entries). In this case, the period of the new general ledger batch will be set to the master period of the current period (as entered in the sales batch record).

"Period form"

You can access the period form from the **selection tool**, setting the environment to **"tables"** and using a double click on the line **"period"**. Now click on the button **"new"** to enter a new period. Confirm with the **"update"** key. Referring to the **data model** the period can be considered as the **intermediate** between the **mandate** and the **batch**.

f. Organisation

Throughout the application, all bookings require an entry for the organisational unit. **Organisation** is mainly used for the representation of the **internal structure** of the (mandate) company, defining the **business unit**, **team** or department responsible for costs or revenues. Other terms used for organisation are "**cost centre**" or "**profit centre**". The organisation can be presented in a **tree structure**, and **users** assigned to the **organisational units**.

The screenshot shows the 'Organisation' form with the 'fields' page selected. The form contains the following fields:

- Organisation: IPAG_Zürich
- Group: main
- Master Org.: IPAG
- Text: Inter Personal AG
- Memo: Abteilung Zürich
- Date from: 13.02.2009
- Date to: (empty)
- Uniqnr: 1

At the bottom, there are two rows of buttons: OldValues, Next, Previous, Revert, Confirm, Delete, Free, Custom, Master, User, Order, Report, Commit, Drop.

"Organisation" form with page "fields"

The screenshot shows the 'Organisation' form with the 'list' page selected. The list displays the following data:

grp	organisation	text	master_organ	date_from	date_to
center	default	Default Organisation	default	26.08.02	
center	adm	Administration	adm	20.10.04	
main	IPAG_Zürich	Inter Personal AG	IPAG	13.02.09	

At the bottom, there are two rows of buttons: Requery, Next, Previous, New, Update, Delete, Free, Custom, Master, User, Order, Report, Commit, Drop.

"Organisation" form with page "list"

g. Contract

"Contract" is used to for the representation of a single **business relation**. This might typically be the **customer** and the **vendor relationship**. In the **payroll**, the **"contract"** is used to represent the **employees**. Contracts are identified by a **unique string** (ex. Client.1234). Contracts can be used for the handling of **billing** as well as **shipping destinations**. At the contract level, a **default entry** for the **debit or credit account**, the **organisation** and the **business field** can be specified. During the entry of **general ledger bookings**, the system will **lookup** the account or organisation based on the **given contract value**. This will help **increase the productivity** of data entry and the **consistency** of the account and organisation usage.

**Field structure of the contract
(with default rent amount for booking entries of CHF 4'500)**

Together with the contract, information is stored about the **business performance** of the contract in the current period. This includes purchase or sales totals, accounts receivable and payable totals, and cash balance. While the contract only holds the information about the **current period**, the system traces the performance of **previous periods** in the **"status"** table.

Attached to the **"contract"** is the **Customer Relationship Management (CRM)**. The **CRM** combines the information of a **person, address and position** into a **contact record**. The contact record then is **linked** to the **contract**. While the **contact record** holds more **detail information**, only the **main address text** is copied to the **contract entry**. **Contact** can **import** data from **external sources** with help of the **clipboard** (in Switzerland: TWIX).

The module **Customer Relationship Management (CRM)** is not included in the **"Public Version"** of **sqlFinance**. To make it easier for a new user this version only uses the **contract record** with the **client's address** and a **text field** for notes, but does not require an entry in the contact, person and address tables.

In the „Full Version“ sqlFinance uses **two types of contracts**, mainly in the modules **“purchase orders”** and **“sales orders”**, where the **batch form** has **two contract fields**, one for the **customer address** (“contract”) and another one for the **shipping address** (“shipping”). For the bookings entered, the **contract value of the batch** is used as **default**. Only the **general ledger** uses the **shipping contract** for the **payment function** (setting the bank account for receivable or payable transfers).

h. Business

Business is a **parameter** very similar to the **contract**. It will use the **same reference table** and provide **lookups** in the **contract table** as well. In the **contract form**, the **“environment”** value is set to **“B”** like **“business”**, whereas **contracts** are classified in the same field according to their **main application** like **“F”** for finance, **“S”** for sales, **“P”** for purchase, **“E”** for personnel/employees, **“A”** for assets and **“T”** for time.

The **“business”** is like the **“contract”** a detail to the **“contract”**. In many cases **contract partners** will be registered under the **“contract”** parameters and the **“business”** only used to structure company **areas of operation** like **“consulting”**, **“partner”**, **“export”** etc.

Under certain circumstances however it can be useful to **book purchase transaction directly to client projects**. In this case use the field **“business”** for the **client project** (or a group of projects). Without any necessity to pass over project or clearing accounts the **purchased goods** used in the **projects** can then be registered in the field **“contract”** and get directly booked to the **project**. In a similar way it is possible to use the field **“business”** for the establishment of a **profit centre analysis**. In many cases however it is easier to use the field **“organisation”** for this purpose.

" Business" form

i. Batches and bookings

A number of **bookings** are hold in **batches**. Batches can be considered like **pages**, holding **headers** and a number of **lines**. In the **sqlFinance selection tool**, the **"environment"** listbox can be set to **"batches"** to get a list of available **batch views**. The **master/detail function** makes it possible to switch between the **"contract"**, the **"batch"** and the **"bookings"** form.

In many cases, the **text field** of the batch is used to **store longer text**, like letters, reports, notes, etc. The text is stored either in **ASCII** or in **HTML** form. A batch must be **attached** to a **period**. A double click on the **text field** will activate an **edit form** with **features** to support the editing process. **With copy/paste text can be moved to other applications or** imported into **sqlFinance** to get stored in the batch table.

Batches are always related to a **period** and a **process**. For **audits**, use the **report** based on the **period** to check through a number of **batches** or **batches grouped into processes**. The **text field** of the process could include **instructions for the bookkeeping**, the batch **comments of the accountant** for the understanding of the bookings. While the **"process"** describes a more **general booking pattern**, the **"activity"** describes the **current set** of bookings. The **header** is used as a **title** in a number of reports. As an example, for the receivables process "interest" use the activity "bank interest and expenses" and as a header "myBank 2009.01".

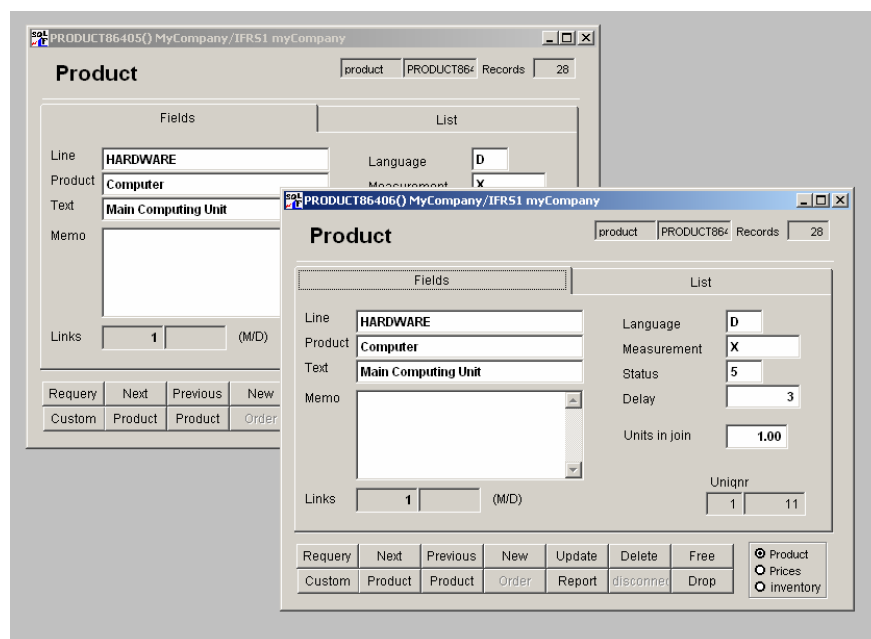
„General Ledger“ batch form

Batch forms change in **appearance**, according to their **application** (general ledger, purchase, sales, receivables, payables, portfolio management, payroll). According to the **batch**, a specific **booking form** is selected. Some batches access **several booking views** (ex. a sales batch will access accounts receivable, tax and sales order). Use the **selection pad** on the right bottom of

the form (and double clicks) to get to the right booking form. Batches may **integrate** the bookings of **different views** to get to a **total of zero**. The total of zero is **tracked** on **batch and booking forms** (bottom right).

j. Logistics

Products are used in **sales** and **purchase** applications. With **drag and drop** operations products can be **aggregated** to a **bill of materials**. Dragging products over a booking will trigger the entry of a **new record**. In the **inventory table** stock may be **tracked**, as well as **mean purchase prices**. The **price table** gives information about price structure, depending on the **market**, with possible **discounts** per market or customer group. **Products** belong to **product lines**, and the **line table** holds information on which **accounts** product purchase or sales operations should be **registered** in the books. The **product line** also holds information about the **tax rate** applicable.



Products from the bill of materials, opened in a master/detail cascade (set with a PC)

IV. Application Modules

1. Working with the General Ledger

A new user might want to **start entering bookings as soon as possible**. For this purpose, the software is shipped with a **sample database** and the mandate **"myCompany"**. When the program is started, the user is **logged in automatically** and finds the **"selection"** tool presented on the screen. Two **sample batches** with bookings show him, **how data can be entered**. Use the **"selection"** tool to open the **batch form**. Set the **environment combo box** to **"batches"**, then double click on the **"sales"** position in the combo box below.

Double click on the **option group** at the right bottom (**"sales bookings"**) or use the **detail key** (third from left in second line) to get the **booking records**. With the appearance of the booking form the batch form disappears. Use the **master/detail keys** (second and third from left in the second line of keys) to **toggle between the forms**. With the key **"free"** you can **disconnect** the forms and get them **both visible**.

With help of the **"add"** key, create a new batch, then use the **"detail"** key (**"bookings"**) to open an empty booking window linked to this batch. Now enter the bookings. For the fields, **default values** like "2009.1" for the period, "default" for the organisation and contract, "USR" for the user will be accepted.

Step one: in the selection tool, set the environment to **"Batches"**, double click on the item **"Gen.Ledger"** to get the batch form (**"Gen.ledger"**)

Step two: select **"gen.ledger items"** as a detail of the **"gen.ledger"** batch (in the gl batch, click on the detail key)

From the **batch form**, the **contract** can be viewed using the **"master"** key. It is also possible to enter **search values** (optionally completed with one or more **wildcards**) into the **contract field** and use a **double click** on the field to get to the **contract form**. Save the data with the **"update"** key and return with the key **"close"**. The **booking form** will reappear, and the software will **transfer** the organisation and account default values from the contract. Please consider that with the use of a new chart of accounts the account defaults in the contract table will have to be changed as well.

The screenshot shows the 'Gen.ledger' window with a 'batch' tab selected. The 'BATCHFIN88' batch is active, showing 5 records. The interface is divided into 'Fields' and 'List' sections. In the 'Fields' section, the 'Business Contract' field is circled and contains the value 'Bank'. Below it, the 'Payment Contract' field also contains 'Bank'. The 'List' section displays various parameters: Organisation (default), User (USR), Mandate (MyCompany), Period (2009.1), Date from/to (10.01.2009), Currency/Status (CHF 5), DefAccount/Type (151010 IFRS1), Booking Style (2), Amount (0.00), Profit (-150.00), Debit (200.00), Credit (-200.00), Master Uniqnr (0 0), and Uniqnr (1 2 4). At the bottom, there is a row of buttons: 'Reqquery', 'Next', 'Previous', 'New', 'Update', 'Delete', 'Free', 'Custom', 'Contract', 'Gen.ledger', 'Order', 'Report', 'Commit', and 'Drop'. Arrows point from the 'Contract' and 'Order' buttons to the 'Business Contract' and 'Payment Contract' fields respectively.

General ledger batch with business and payment contracts

Now you can start with the entry of bookings. **Default values** from the batch form (e.g. "2009.1" for the period, "default" for organisation and contract, the contract's account value for the field account) will be set as soon as you click on the key **"new"**. Modify the record and confirm your data entry with the **"update"** key.

The **IFRS chart of accounts** can be used as it is or adjusted to user requirements. To get a **list of available accounts**, put the **wildcard** value **"%"** into the account field and then use a **double click**. Select an account record, and use the key **"release"** to get back to the booking window. The selected account value will be **copied**.

When a **new record** is entered, in order to get the **values** of the **previous record**, use the **"oldValues"** key (or **ctrl-q**). The **effect** of the **first records entered** on the booking form can be **tracked** right away on the **printed profit and loss statement**. Just get the **period form** with the correct period (e.g. with a double click on the period field of the batch), click on the key **"reports"**, and start the frequently used report **"balance totals"**.

2. A simple sales transaction

The **"full version"** of **sqlFinance** includes **purchase and sales application modules**. Purchase and sales batches are entered similarly to general ledger batches. Always start from a **batch-booking cascade**. First open a **batch** with help of the selection tool, then select the **detail bookings** using the **'detail'** key. Proceed as follows for a simple sales transaction:

- Get a **sales batch form**, enter a **new record**. The **default values** should be sufficient to allow an entry. Note that the **total field** of the new batch is **set to zero**.
- With the **detail/sales item key**, get to the **booking form**. Click **"add"** to get a **new entry**. For the **new record**, use the product **"PC"** (personal computer) and a **price** of CHF 3'500.-- (as an example). In the **"units"** field enter the **quantity** of PC's to sell (2), in the **discount** field the sales discount for the customer.

Fields		List	
Register / Item	13 1	Tax / Rate (%)	VAT 7.6 7.60
Business	main	User/Org.	USR default
Contract	SQLCOM	Date from / to	10.01.2009 21.01.2009
Product	PC	Amount	7 000.00
Units/Meas.	2.00 UNIT(S)	Currency / Rate	CHF 1.00
Shipped	0.00	Total	7 000.00
Price / Disc (%)	3 500.00 0.00		
Text		Uniqnr	1 13 1
		Status	1
		Batch	SQLCOM Sales
		Balance	0.00

Entry of a sales booking: 2 PC's at a price of CHF 3'500

- After the entry is completed, note that the **new batch total** (bottom right) includes 2 x CHF 3'500 + 532 (VAT 7.5%). The **total** is **CHF -7'532** (a **negative value**), since this is a **sales (revenues) entry** in the chart of accounts (**type 4**). The **account** is **set automatically** according to information in the **product line** (line is a **master** of the **product table**). To modify the account settings, select the **"line"** table for the **product line** "HW" (hardware), or **drill down** with **double clicks** on the **"product"** and then again on the **"line"** field.

- d. With use of the **reports tool**, an **invoice** to the customer is printed. The invoice can include **billing** and **shipping addresses**, and information about **backordered** shippings. **Multiple taxes** are possible per bill, and also **foreign currency calculations**. The product information is completed with **units** and **measurements**, as well as **discounts** per products or markets or clients. The sales order is available in the "**full version**" of sqlFinance and includes a full **CRM** (Customer Relationship Management), **BOM** (bill of Material) and a **price expert**.

sqlFinance Report Preview - invoice.frx

sqlFinance Report Preview - invoice.frx

75%

invoice 13

Date 03.02.09

ship to:

SQLCOM AG
Herr F.Meier
Freitagstrasse 22
8000 Zürich

invoice to:

SQLCOM AG
Herr F.Meier
Freitagstrasse 22
8000 Zürich

customer	ship	reference	salesperson	original date
SQLCOM	SQLCOM	13	USR	

ordered	shipped	backordered	item	item description	unit of measure	Date	unit price	discount %	currency	tax	extended price
2	0	2	PC		UNIT(S)	02.05.06	3 500.00	0 %	CHF	VAT 7.6	7 000.00
Subtotal (H)											7 000.00
Total Taxes											532.00
TOTAL											7 532.00

page: 1

Report with invoice (from the sales orders module)

- e. Release the sales booking form, and get - from the sales batch form - a **receivables form** (through a click on the "**receivables**" position in the list view at the bottom right of the form). The **options** of the list view include:
- Sales items
 - Receivables
 - Taxes
 - Picking
 - Shipping

Picking and shipping are not supported in the PC version.

- f. Enter a **receivables** record. For the product choose "**bill**", and enter the **total** of CHF 7'532. You may **drag the amount** from the **balance total** (-7'532) to the **total field**. Note that the **amount** is **changed automatically** from -7'532 to its **counter total** of 7'532. Use the **right mouse key** for **drag and drop**, use **double clicks** on the **money fields** to change from a (-) to a (+) sign.
- g. After entry of one or more the receivables, the **batch total** is **zero** again. Now the batch can be **committed** to the **general ledger**. There are **two ways to commit**: either, the **bookings are sent unchanged** and as part of the **current batch**, or only the **totals of sales items** (combined with all details of receivables and tax entries) are sent to a **new general ledger batch**. This batch will be **generated automatically** and attributed to the **reporting (master) period** of the **sales batch period**. Set the **status** to **1** and use the **update** key in order to commit the sales batch as it is. Use the **commit key** to start the creation of **general ledger bookings** with **sales item totals**. With "**recall**" in both cases the transaction can be **undone**.

Receivables				booking		bookdebit864		Records		1														
Fields						List																		
Register / Item	13		2		Comm/Charges	0.00		0.00																
Business	main					Amount	7 532.00																	
Contract	SQLCOM					Currency/Rate	CHF		1.00															
User / Organis.	USR		default		Total	7 532.00																		
Product	Billing					Date_from / to	10.01.2009		21.01.2009															
Price / % Adj.	7 532.00		0.00		Uniqnr	1		13		2														
Text						Status	1																	
						Batch	SQLCOM Sales																	
						Balance	0.00																	
<table border="1"> <tr> <td>Requery</td> <td>Next</td> <td>Previous</td> <td>New</td> <td>Update</td> <td>Delete</td> <td>Free</td> </tr> <tr> <td>Custom</td> <td>Sales</td> <td>Receivabl</td> <td>Order</td> <td>Report</td> <td>Commit</td> <td>Drop</td> </tr> </table>						Requery	Next	Previous	New	Update	Delete	Free	Custom	Sales	Receivabl	Order	Report	Commit	Drop	<input checked="" type="radio"/> General Ledger <input type="radio"/> Receivables <input type="radio"/> Payables <input type="radio"/> Taxes				
Requery	Next	Previous	New	Update	Delete	Free																		
Custom	Sales	Receivabl	Order	Report	Commit	Drop																		

Receivables form with total amount of CHF 7'532.--

3. Debit/Credit Clearing

Receivables and **payables** are part of **general ledger** or **sales/purchase batches**. **Accounts receivables** and **customer payments** for **key accounts** are most easily registered with **one batch per customer**. If there are **many customers**, a **batch per month or per area** can be used as well. For each batch, a **list of open and cleared bookings** can be generated with use of the **report tool** (key "reports" in the batch form). This is useful for the **payment control**.

At the end of the year, the batch can be **dragged** over another batch to get a **batch entry in the new year** and a **closing and reopening booking**. An **interactive form** asks, if this function should be run for the **current batch** only or **all batches in the list**. With entries in **check boxes** the user can indicate, if **only batches** should be copied or **batches and bookings** as well, or if **instead of copying all bookings just one closing and reopening booking** should be **generated** (see the chapter "Drag and Drop" later in this manual).

In case that a client only pays a **part of a bill**, either **modify the bill** (with automatic adjustments of tax liabilities) or **clear the difference to a special account** (ex. "sales loss, taxed 7.6%") and use that total later as an adjustment in your tax declaration.

Form for Accounts Receivable, mit Key "payment"
(available in add mode)

The **account assignment** for the **receivables** is driven by the **product value** and the **accounting** defined in the master **product line**. With the **product** a **payment mode** can be defined (e.g. 30 days delay). Depending on the **account values** in the corresponding **product line** the **bookings** can be **retrieved** and **cleared** in **these accounts**.

The **receivables** form is usually accessed from the **master batch form**. This may be a **general ledger batch**, but also a **sales or purchase batch**. With a

double click on the **selection pad** at the bottom right of the screen the **receivables form** can be activated as a **detail** of the **batch**. A **click** on the key **"add"** will initiate the entry of a **new booking**. Alternatively the receivables form can be created with the **selection tool**. Set the **environment value** on the selection tool to **"booking"** and double click on the **"receivables"** position to start the form.

In **all booking forms** it is possible to **connect entries** with a **link**. A link makes it possible, to **retrieve** later one or more booking records **connected** to a another booking entry. If a booking entry is **linked**, it will appear in **italic characters**.

As soon as the records are **unlinked**, they will appear in **normal characters** again. Every time a booking is **dragged** over **another booking**, the application **asks the user**, if he wants to **enter a new entry with a link**, a **new entry without a link**, or just to **link the two records**.

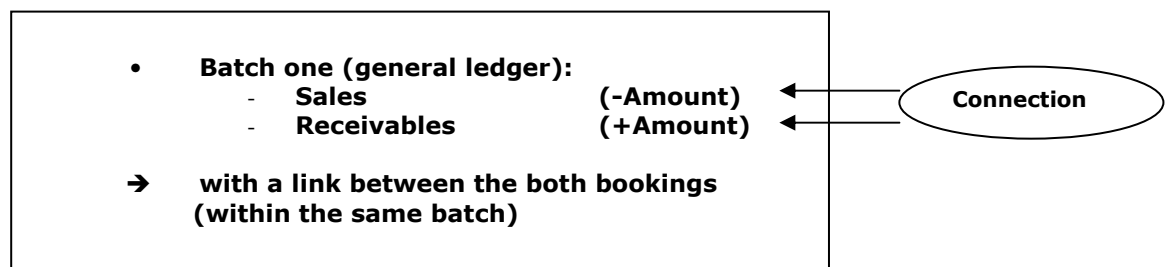
The **linking of bookings** is important for the **clearing of debit positions** (sometimes credit position are tracked this way as well). When an **invoice** is sent to a customer, a **debit position** is kept **open until payment is received**. If the payment is **not corresponding** to the **exact due amount**, an **adjustment** entry may necessary.

To **commit the batch**, not only the **total of all bookings** must be equal zero, but also the total of all links that **connect** bookings **within the batch** or to **bookings of other batches**.

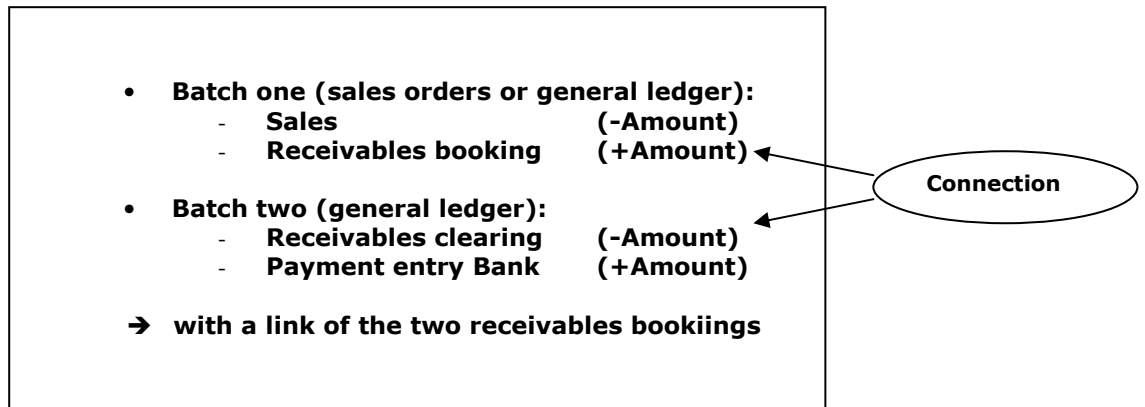
There are **two basic approaches** to register the **payment of a client bill**,:

- **Direct booking:** the **sales booking** (type „revenues“) is **directly linked** with the **booking for the payment entry at the bank**. In this case case, **both bookings** are usually part of the **same batch** and have the **same (positive and negative) amount**.
- **Receivables Clearing:** The **sales batch** includes the **sales bookings** and **one or more receivables bookings** (stored in the receivables part). The **payment batch** in the **general ledger** includes the **counter-booking** linked to the **receivables position** and the **booking for the payment entry at the bank**.

With **direct booking** the **second booking entry** can be linked to the **previous booking** with the **"payment"** key. This function is available in **add-mode** and sets the **negative amount** and the **payment contract** as specified in the master **batch form**. With this approach, the **receivables** of the **current day, week or month** can be entered in a **single batch** (or additionally **one batch per key customer**).



Direct booking of client payment



Booking with receivables

In the following find **detailed instructions** how to clear **open receivables**. Proceed in a similar way for the management of **payables**.

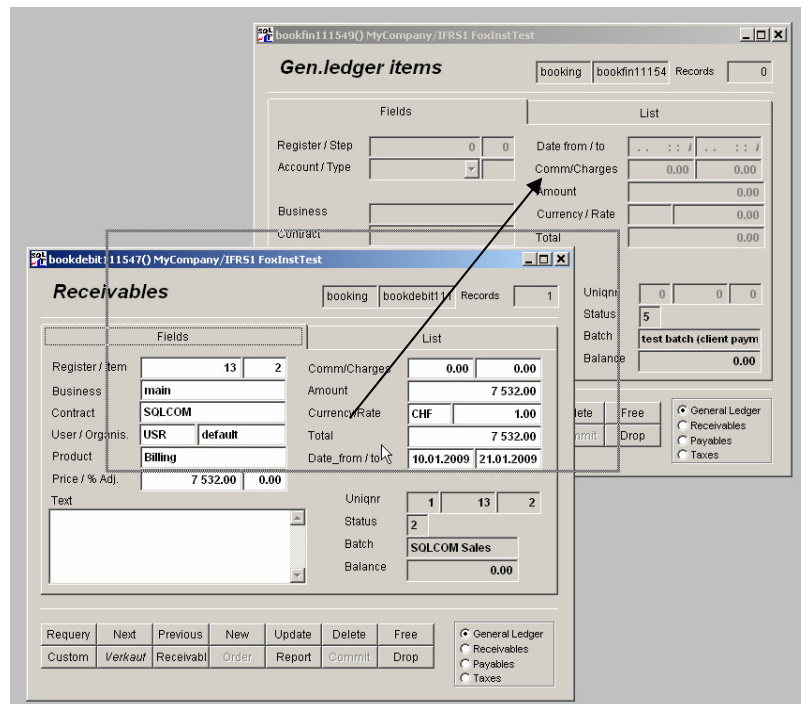
- a. Get a list of open **debit entries** (in the selection tool, choose bookings: accounts receivable).
- b. If not entered yet, create a contract for your **bank account**. As a **detail to the bank contract**, create a **general ledger batch** and open the (detail) **receivables form**.

Contract used in gen.ledger batch (with environment set to "F")

- c. At the reception of a **payment**, drag the **receivables position** (CHF +7'532) over an **empty receivables** or **general ledger booking form** (normally connected to the new payments batch). Get an **automatic**

clearing entry of CHF -7'532. Note that the **new entry** appears in **bold characters**, indicating the **connection to the receivable entry**. It is possible to **select** the new entry in **another form** with use of the **"detail"** key (or **ctrl-F3**).

- d. To **erase the link**, use the key **„unlink“**. Unlinked bookings appear in **normal characters** again. To get from one **form** to **another** use the **"detail"** key or **ctrl-F3**.



Drag a receivables booking over a general ledger booking to generate a payment entry

- e. Now **clear the new batch** (with the automatic entry of CHF -7'532) to **zero** with an **entry of the payment**, that is a **receivable** or **general ledger booking** of **CHF +7'532** (usually on the **bank account**). After a click on the **"add"** key, use the **"payment"** key to get automatically the right amount and a link. In both cases, change the contract value to the **bank contract**. If the bank contract is entered in the **batch** as a **default for the shipping contract**, you may **load** it with the shortcutkey **ctrl-F10**.
- f. Check the **contract table** to see how **sales entries** and **commit/recall commands** influence the **totals** of the **contract reporting**. Before **"commit"** only the order total will amount to **CHF 7'000**. After **"commit"** the **earnings field** will amount to **CHF 7'000.--**, the **tax field** to **CHF 532.--**, and the (open) **receivables field** to **CHF 7'532.--**.

Contract form with statistics from the sample sales operation

- g. Before the batch is **closed** the software checks, if the **link totals** in the batch all result to an amount of **zero**. If the batch includes records with a **non zero total over the linked bookings**, a **warning** is sent to the messenger. If necessary, a link can be erased with the **"unlink"** key.
- h. You may **drag linked bookings** over the **clearing tool** (activated from the menu **"view"/"clearing"**) to get an **overview** over the **linked bookings** and their **total**. As soon as a booking is dragged over the **Clearing tool**, a **list of all linked bookings** is produced. With reference of the **server/uniqnr/trans** value these bookings can be **retrieved** through a **query** from the **selection tool**.

Clearing-Number	Count	Amount Remaining
1	2	0.00

Clearing Records	Server	Uniqnr	Trans	Amount	Count	Amount Remaining
F 118050 Bank default 10.01.09 Swiss Bank Cor				150.00	1	2 1
F 441010 Bank default 10.01.09 SQLCOM IT Serv				-200.00	1	2 2
F 341010 Bank default 10.01.09 Swiss Bank Cor				50.00	1	2 3

Booking form dragged over the "Clearing" tool

- i. In a similar way, the **clearing form** can be **dragged over a booking form** to **link the target booking** to the **list of already linked bookings**. The **link** entered in the **target booking** has to be **confirmed** with the **"update"** key.
- j. The **period** (2009.1) may be committed with the **"commit"** key from the **"period"** window. Use a **double click** on the **period** field of the **"batch"** form to get to the **"period"** form. Note that a period can have an **intermediate closing** (ex. monthly sub periods 01 - 12 to yearly period 1, or a **year closing** (yearly period 1 closing to new yearly period 2).
- k. **Intermedicate closings** will usually commit **monthly periods** (like 2009.01 to 2009.12) to the **yearly period** (e.g. 2009.1). A **yearly closing** will commit the **current year** (e.g. 2009.1) to the **new year** (2010.1). **Intermediate closings** include **totals** for **assets, liabilities, expenses and earnings**, **year closings** include **totals only for assets and liabilities (and a profit total)**.

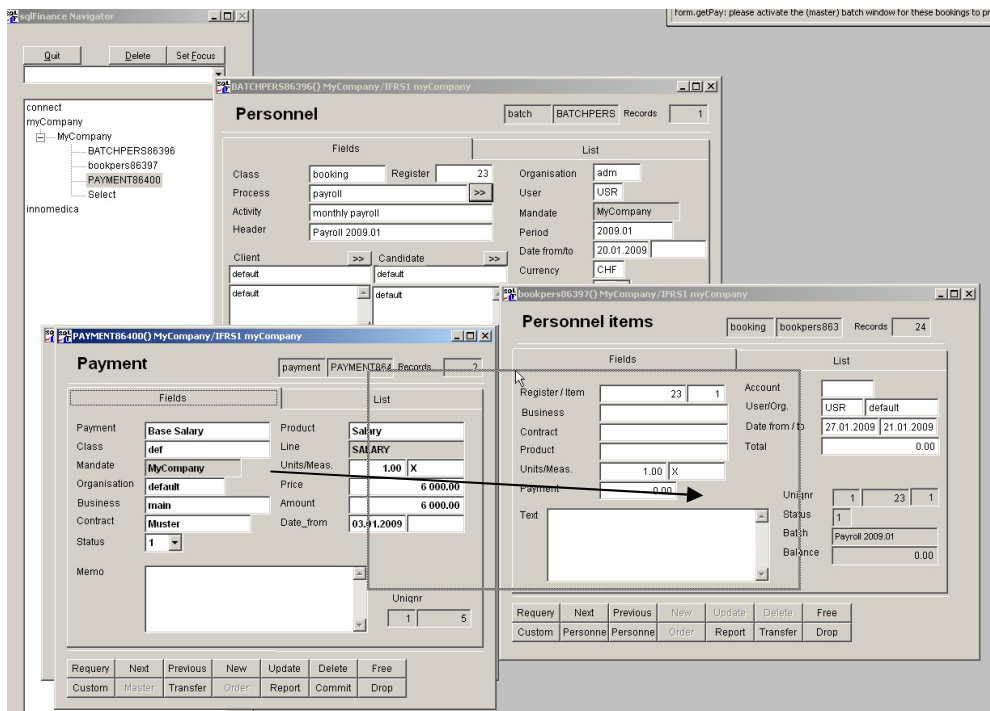
Period		period	period111551	Records	1																								
<table border="1"> <thead> <tr> <th>Fields</th> <th>List</th> </tr> </thead> <tbody> <tr> <td>Period</td> <td>2009.Q1</td> </tr> <tr> <td>Mandate</td> <td>MyCompany</td> </tr> <tr> <td>Contract</td> <td>default</td> </tr> <tr> <td>Business</td> <td>main</td> </tr> <tr> <td>Process</td> <td>closing</td> </tr> <tr> <td>Org / User</td> <td>default USR</td> </tr> <tr> <td>New Period</td> <td>2009.1</td> </tr> <tr> <td>Type</td> <td>2 subperiod closing</td> </tr> <tr> <td>Datagroup</td> <td>1 without organisation</td> </tr> <tr> <td>Comments</td> <td></td> </tr> <tr> <td colspan="2"> <div> Date from/ to: 01.01.2009 31.03.2009 Date new: 31.03.2009 Close account / type: 218010 2 Chart/Currency: IFRS1 CHF Status: 5 Server/Uniqnr: 1 29 Batch Srv/Uniqnr: </div> </td> </tr> </tbody> </table>						Fields	List	Period	2009.Q1	Mandate	MyCompany	Contract	default	Business	main	Process	closing	Org / User	default USR	New Period	2009.1	Type	2 subperiod closing	Datagroup	1 without organisation	Comments		<div> Date from/ to: 01.01.2009 31.03.2009 Date new: 31.03.2009 Close account / type: 218010 2 Chart/Currency: IFRS1 CHF Status: 5 Server/Uniqnr: 1 29 Batch Srv/Uniqnr: </div>	
Fields	List																												
Period	2009.Q1																												
Mandate	MyCompany																												
Contract	default																												
Business	main																												
Process	closing																												
Org / User	default USR																												
New Period	2009.1																												
Type	2 subperiod closing																												
Datagroup	1 without organisation																												
Comments																													
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Custom	Verkauf	Gen. ledg	Order	Report	Commit	Drop																							

**Intermediate (quarter) period 2009.Q1
reporting to the year 2009.1**

4. A short Introduction to Payroll

sqlFinance Payroll uses the **contract** structure to describe **employees**. If necessary, more than one contact per **employee** is allowed. Monthly or yearly **payments** are **associated with the contracts**. Payments include both a **product** and a **product line** value. Depending on the **product line** value **transfers** can be selected and bookings **generated automatically**, using the product line **account assignment**. **Transfers** are used to **define social security and insurance charges deducted from monthly salary payments**.

To run a payroll batch, payment records are dragged over an empty payroll booking form. After copying, with a click on the **"transfer"** key, the automatic insertion of transfer records can be started. From the payroll batch record, reports for employees and lists with totals can be printed. If errors occur, with a delete attempt of the batch all the entered bookings can be erased and the **procedure restarted**. At the end, the batch is **committed** and the **sub period** of the payroll **closed to the main yearly period**.



**Form "Personnel items" as a detail of the "personnel" batch.
Drag "payments" over the empty "personnel items"
to generate payroll bookings
(note the grey drag frame)**

a. Basic payroll proceedings:

- Enter and manage **payments** in the **payment form**.
- Select a **subset of due payments** (ex. status = "1").
- Select a **personnel batch** (normally a new batch with no personnel booking entries yet). Use a **new sub period** for this batch (ex. 2009.01).
- **Drag payments over the personnel booking form**.
- **Reselect the bookings** from the batch.
- Click on the **'transfer'** key to get transfer entries **automatically generated** for each payment (social benefits, insurances etc.).
- Answer with **'yes'** or type **ctrl-w** at the **browse windows** presented for checks during the transfer process.
- **Reselect** again to see the **new payment and transfer entries** in the personnel booking form.
- Get back to the **personnel batch form** and print the **payroll** sheets or lists (click on the **"reports"** key to get to the **report writer tool**).
- When an **error** occurred, click on the **"delete"** key of the batch: the system will then propose to **delete all the corresponding bookings** as well.
- When no errors occur, **commit the batch** with the **'commit'** key.
- **Close the sub period** to the **main yearly period**.

Fields		List	
Transfer	Social Security	Product	Social Security
Class	def	Line	SOCIAL SECURITY
Date_from	05.10.2000	Chart	IFRS1
Status	1	Percentage	5.05 (%)
Source Triggers:		Min.Amount/Year	
Line (Product)	SALARY	Max.Amount/Year	240 000.00
Business			
Text		Uniqnr	4 21

Requery	Next	Previous	New	Update	Delete	Free
Custom	Payment	Detail	Order	Report	Commit	Drop

Transfer record for Social Security charges

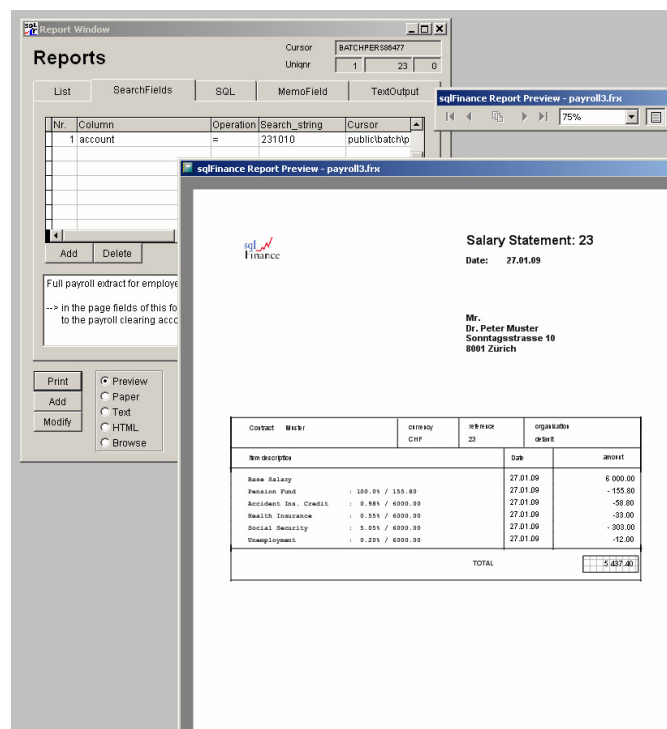
(trigger all payments of the product line „SALARY“; enter transfer records with accounts assigned according to the product „Social Security“ and its product line „SOCIAL SECURITY“)

b. Payroll period management

- A **monthly payroll** is usually stored in a **separate and intermediate period** (ex. monthly period 2009.01, closing to 2009.1, the annual period).
- After the monthly payroll, close the **monthly period** to the **yearly period** and get the summary entries into your main accounting. Closing parameters in the period form can be set to **closing totals per organisation** or **closing totals without organisation**.
- The **intermediate periods** of the payroll should **not be used for other bookings**. Rather use **several intermediate periods** per month to keep your data **well organised** (e.g. 2009.01a, 2009.01b).

c. Payroll printing

- Print the **monthly payroll** with the **payroll report** in the **personnel batch form**.
- Print the **yearly payroll** from the **period form** with the report **"Payroll Period"**. Be sure to start this process from the **right period record**, usually the **yearly period** all the monthly sub periods will report to (through the 'close period' process).
- There is a special report **"payroll official report new"** for the new **Swiss payroll reporting**, filling in correctly the fields of the official payroll form.



**Example of a payroll report selected from the batch record
(with search value for account set to "231010")**

d. Payroll data structure

- Use the '**contract**' field to handle **employee contracts**. The contracts can be grouped to **business fields** ('business') and **organisational units** or **cost centres** ('organisation').
- Payment entries include **product and line description** (ex. fix salary per moth: product 'Salary', product line 'SALARY'). In the '**line**' table, enter the **debit and credit accounts** that will be **used later** for the **creation of payroll bookings**. Use the same approach for the '**transfer**' table. In the **transfer** table you can enter a value for the **business field** ("business") as well. However, in the payroll application the **join** between the **payment and transfer tables** is based **only** on the value of the field (product) "**line**".
- **Payment and transfer records** are **joined** based on the **trigger line entry** of the **transfer form**. The **trigger line of the transfer** corresponds to the **line of the payment product**. In other words, **transfer records** are selected and joined with **payment records** according to their **trigger line value**. Make sure to enter **no value** for the **trigger business field** unless you want to **limit transfers to the payment business value**.
- The **new bookings** generated by the **transfer record** will get account values **not from the trigger line value**, but the **target product and line values of the transfer record**.

payment record		transfer record
payment product		
payment line	→→→	transfer trigger line
		transfer product
		transfer line

- Use **three types of accounts**:

account	type	line field
- salaries	(expenses)	debit
- payroll employees	(liabilities)	credit
- social benefits	(liabilities)	inventory

- How to **proceed with the bookings**:

salary payments:	+ salaries	- payroll empl.
social benefits (employee part):	+ payroll employees	- social benefits
social benefits (company part):	+ personnel expenses	- social benefits

Social benefits (employee part) include the employees participation in the payment of the benefits (usually 50%), the social benefits (company part) the other half (usually paid by the employer).

The **accounts** should be registered in the **product line**. Products should be entered for the **salary payments** and the social benefit **transfers**. In the **line form**, there are **three fields for the accounts**:

- 'debit': personnel expenses
- 'credit': payroll employees
- 'inventory': social insurances clearing

- Please consider, that the **salary** appears as a **positive amount** in the **expenses**, but as a **negative amount** in the **payroll clearing account**. The **social benefits** charged to the employee, on the other side, will appear as a **negative amount** in the **social benefits clearing**, but a **positive amount** in the **payroll clearing**. In the **employees payroll report**, this is adjusted of course to **inverse signs**, presenting the **salary as a positive amount** and the **charges as negative amounts**.
- Consequently, the **payment of the net salary** is a **charge to the bank account** and a **positive booking** (for one or a number of employees) in the **payroll clearing account**. This will bring the **total of the payroll clearing account** to **zero**.
- **Example (social security):**

3/322010: personnel expenses
 2/231010: payroll employees (liabilities)
 2/211050: social insurances (liabilities)

Based on this line entry, **two payments** will be generated:

- debit to inventory
(company part, not appearing in the payroll statement)
- credit to inventory
(employee part, appearing in the payroll statement,
based on account 231010)

Records in the „**line**“ table **accept null values** for accounts. Null values will be **skipped** in the transaction. Debit to inventory will charge the social benefit to the employer, credit to inventory to the employee.

Line		line	LINE86478	Records	21
Fields		List			
Line	SOCIAL SECURITY				
Text	Social Security				
Debit	322050				
Credit	231010				
Inventory	211050				
Tax					
Chart	IFRS1				
		Uniqnr	4	3	
Requery	Next	Previous	New	Update	Delete
Custom	Master	Product	Order	Report	Commit
					Drop

Example of a social benefits implementation for a Swiss payroll

**e. Example of IFRS-Accounting for Payroll
(in the "myCompany" database)**

Debit Accounts:

322010	salaries
322050	social security
322060	health insurance
322070	accident insurance
322080	pension plan
322090	other personnel insurances

Credit Accounts:

231010	payroll employees (clearing account)
--------	---

Inventory Accounts:

211050	social security
211060	health insurance
211070	accident insurance
211080	pension plan
211090	other personnel insurances

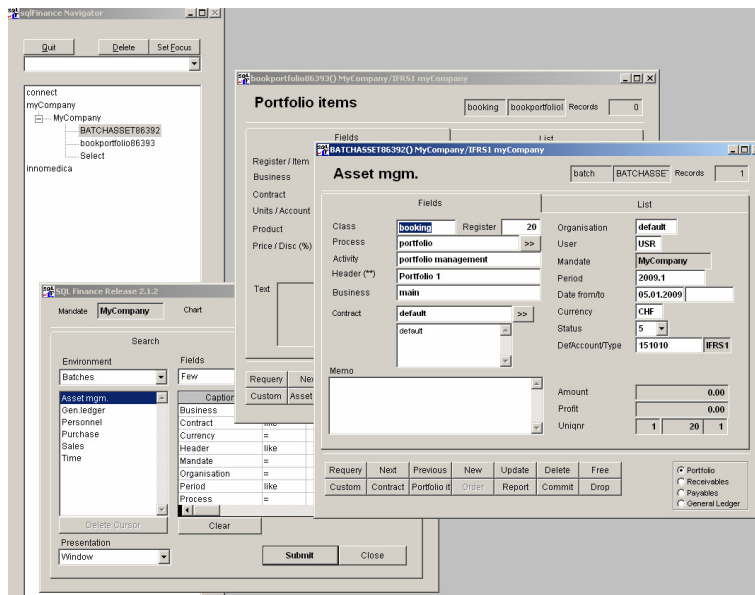
Liabilities of the inventory accounts (211050 to 211090) show how much there is to **pay to social insurances**. Another **liabilities account** (ex. 211150 to 211190) may be used to **list the payments already made** and compare the two groups to check if the payment estimation and the payments made correspond well.

The **monthly payment to employees clears the payroll account** (231010) to **zero**. The **payroll listing** for the employees is – as a matter of fact – **a simple list of this account**. Consequently the **monthly total of this account** indicates the **total payment due to the employees**.

**Example of an open subperiod in the payroll application
(with closing per sub period and organisation)**

5. Asset Management

sqlFinance includes, in the full version, a module for **asset management**. Part of the module is an **interface** for the **import of trading information**. Like all other modules, it supports **foreign currency** and includes fields for **banking commissions, taxes or other charges**. Based on the **period**, reports for the **clearing of foreign currencies** to the **reporting currency** can be generated. The reports also make possible the analysis of **performance per title** and the separation of **asset performance** from **currency performance**.



Asset management cascade with batch and portfolio bookings

For the **portfolio management** a **booking example** over three years is joined to the **"public version"**. This example has been **kindly provided** by the finance company **"Innomedica Holding"** for education and marketing purposes. The example illustrates the following **business cases**:

- Trading of listed stock (health sector)
- Trading of own shares
- Issuing of convertible bonds
- Clearing of expenses for portfolio management
- accrual of currency gains and capital gains from stock trading

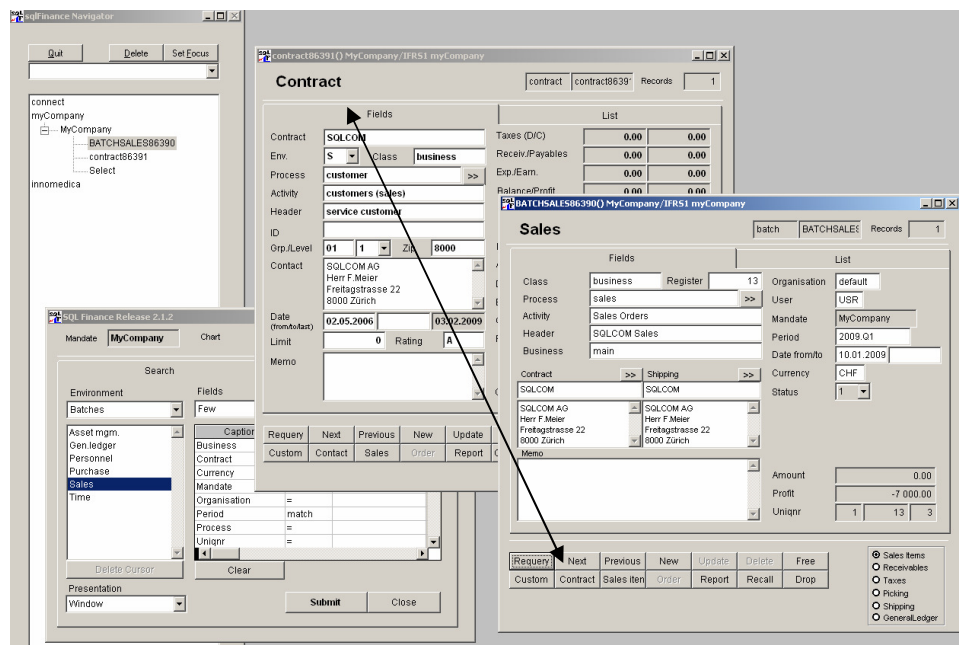
This example is practical for the study of **batches and bookings** and to get acquainted to the use of **print programs**. The sample data are accessible through the connection **"Innomedica"** in the connection tool. Then select the mandate **"Innomedica"**, and check the **three periods** 2003.1, 2004.1 and 2005.1. From the period form a **balance and income statement** can be generated using a report like e.g. **"Balance Totals"**.

V. Key Functions

1. Forms and Cascades

sqlFinance forms are used to **present selected data** and have a **standard appearance**. They all include a pageframe with a **first page for the fields of the current record** and a **second page with a list of all records in a grid**. Every form has the **same keys** for update operations or the activation of other forms. A number of connected forms, selected with the master or detail key, appear in a **cascade**. **Only the current form is visible**. The forms are usually connected through a **master-detail relationship**.

The **drill down** from a master to its details can be made over **several levels** and is limited only by logical aspects of the **data model**. Master-detail relationships follow the main structure: **address – contact – contract – batch – booking**. Check the data model for a full understanding of master-detail relationships.



Simple cascade contract – sales batch with detail key at master form and master key at detail form

In the **cascade**, only the **current form** is visible. With use of the **"free"** key forms can be **separated from the cascade** and then get **used again** for the creation of **new cascades**. This may be practical in many situations, for example after a **double click** on the accounts field of a booking form, when the user wants to **keep the double clicked account record** (or the account list when a wildcard was used for the query) as a reminder.

As an example – get the **'batch' details** of a **'contract'**: first **select the contract** with use of the **selection tool**, then click on the **detail key** (third in the second line of keys) of the contract form to get the **detail 'batch' records**.

sqlFinance will select **all batches related to this contract** (checking the contract field of the batch against the contract field of the contract).

Every time a **new batch** is entered, the new record will **inherit the contract value of the master (contract) record**. Note that the **environment** value of the contract must be set to **S/Sales** in order to get a **sales batch** as a detail. Other detail batches can be selected using the **option list** on the right bottom of the contract form.

a. Standard keys of the form:

upper row:

- Requery (selects recent data from the disk)
- Previous (get the previous record)
- Next (get the next record)
- Add (get a new record to fill out)
- Update (store updated fields to the disk)
- Delete (destroy current entry)
- Free (disconnect)

lower row:

- Custom (modify values for fields in the master database)
- Master (select the master table)
- Detail (select the detail table)
- Order (modify the ordering of the records)
- Report (access the report window with reports for this form)
- Commit (start form-specific action like closing batches)
- Drop (close window, drop cursor)

b. Some key action can vary according to the form. The most important features are:

- **Batch and period forms:** commit open batches or periods to closed batches or periods (or back).
- **Personnel bookings:** create transfer bookings for personnel payments, as specified in the transfer table (see section about payroll).
- **Contact form:** The clipboard key will get Twix data (clipped with ctrl-c) and produce entries in the fields; an efficient feature to copy private or company addresses from any telephone book sources into the contact form.

c. The contact record needs, not like any other record, connections to **three master records** to be valid: **address, person, position**. They all can be set by **dragging the "fields"** page of an address, a person or a position **over the contact form**. Only when **all three connections have been set** (the address may have been inherited through a master/detail connection of the form), **a new record can be entered**.

d. Address, person, position and contact data is part of the **Customer Relationship management (CRM)** and not included in the **"free version"** of **sqlFinance**. The **"free version"** simply uses a **contract record**, including a **contract name** and an **address field**. No link to a contact or its

master address/person/position tables is necessary for the contract record to work properly. This makes it easier to get first familiar to the application.

- e. **Shortkeys:** For most **key buttons on the forms** there is a **shortcut** available. For example, entering **ctrl-s ("select")** will start a query in the selection tool or in the report. **Ctrl-a ("add")** will add a new record on a form, **ctrl-u ("update")** will confirm the entry to the database. A complete **list of shortcuts** can be found at the end of the manual. The **shortcut** is indicated on the **messenger line** when the user clicks the **right mouse key** on a **key button**.
- f. If master or detail forms are **connected**, the corresponding master/detail keys appear in **Italic writing** and indicate the **name of the master or detail cursor**. A **click on the key will switch control in the cascade to the master or detail form**.
- g. In a cascade, using the **master and detail keys** of the forms it is possible to **move quickly up and down**. Instead of clicking on master and detail keys, the simple keystrokes **alt-F2 (master)** and **alt-F3 (detail)** may be used.

2. Fields

Fields appear mostly on **page one** of the form's **pageframe**. Fields belong to **field types**, used for the presentation of **specific values** like numbers, characters, dates etc. Field types have a **standard behaviour** in the way they react to user action like double click or drag and drop.

a. Text fields

Text fields often are referenced to **master tables**. For example, a **contract name** entered in a contract field of a booking record **references to a contract entry in the contract table**. Through a **double click** in the **contract field** (of the booking form) the user can **access directly the contract table** (opened as a detail) **with the selected record**.

The system will **accept the use of wildcards** in combination with the field value (here the contract name). Entering **"myCompany"** will have the same effect as entering **"*myCompany*"** or **"%myCompany%"** and bring **all contract records with a contract name including the substring "myCompany"**. When the contract form is **closed**, the **contract name** of the selected record is **copied to the initially double clicked field of the batch form**.

The screenshot displays two overlapping windows in the sqlFinance application. The background window is titled 'Contract' and contains a form with various fields: 'Contract' (Bank), 'Env.' (F), 'Class' (business), 'Process' (finance), 'Activity' (Credit Manager), 'Header' (Swiss Bank Corpo), 'ID' (1/19), 'Contact' (Swiss Bank Corpo, Mr. P. Muster, Paradeplatz 1, 8001 Zürich), 'Date (from/to)' (02.05.2006), and 'Memo'. Below these fields are buttons for 'Requery', 'Next', 'Previous', 'Custom', 'CRM', and 'Gen.Ledg'. The foreground window is titled 'Text Editor' and features a large text area, a toolbar with 'Import', 'Export', 'Arial', 'Courier', 'SaveFormat', 'WriteToFile', 'Size' (set to 8), and a 'Drop' button. An arrow originates from the 'Memo' field in the 'Contract' form and points towards the 'Text Editor' window, indicating a double-click action that opens the editor.

Text editor and contract lookup form started with a double click in the memo field of the batch form

b. Numeric fields

- **Integer numbers** are stored in **integer fields**; **decimal numbers** are stored in **money fields**. Only money fields offer special capabilities.
- **Double clicks** on money fields will **invert the value** (from positive to negative or vice versa).
- Many money fields can be **dragged** over each other. Drag the field with help of the **right mouse key** (the left key will start Microsoft standard editing functions) and place it over the target field. The dragged value is entered in the new field **as soon as the mouse key is released**. In the **booking form** this may lead to **adjusted calculations** in other fields (if for example you drag a new amount over the price field). The most common application is to drag the **running total** of a batch over a **final booking entry** to **get the total of all bookings for that batch to zero**.
- **Money fields** in the booking form are programmed for consistent calculation (**units * price = amount, amount * currency-rate = total**). It is better to drag a source over the price or amount field than the total field, since **changes in the total will lead to the adjustment of the rate rather than the amount or price fields**. The rate adjustment may be practical in **portfolio management**, but consider that rate adjustments may lead to **undesirable rounding effects**.

c. Date fields

- **Date fields** always include **date and time values**. If time is not considered important, it can be omitted.
- **Double clicks** on the **date field** first delete the **date value**, then enter the **current date** (on the second double click).

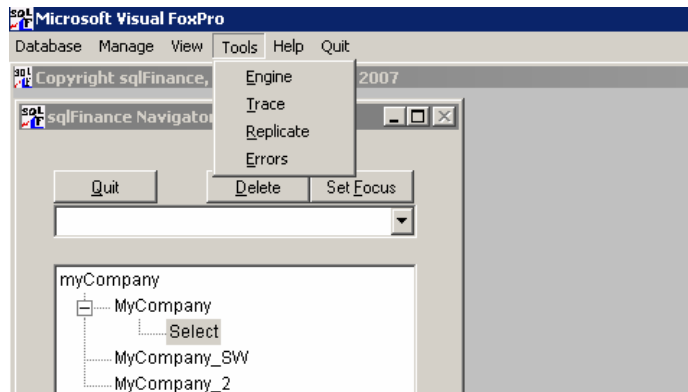
d. Memo fields

- **Memo fields** are used to store **multi line text elements**. A **client address** used in a letter is an example of a **multi line text**. Text stored in **memo fields** may be up to **many pages long**, depending only on the **capacities of your system**. However, no line longer than **8192 characters** is accepted.

Double clicks on the **memo field** activate in a first step the **sqlFinance editor**, another click on the sqlFinance editor activates the **"notepad" shareware editor**. Note that a version of the **"notepad" shareware editor** must be **downloaded** and installed in the **sqlFinance** root directory to get this feature working. The **sqlFinance** editor presents a **user adjustable window** and the possibility to **change the size and style of the text**.

3. Menus

sqlFinance makes little use of **menus**. After the start of the application the menu is shown on the upper left screen. Only when the report form is shown the menu is changed to a choice of system options. The menu is mainly used to start **sqlFinance tools**. To make **application forms** visible, it is easier to use the **treeview** at the left of the screen.



sqlFinance main menu

Menu options on top of the screen:

Database

a. Connect

Establish a connection with a physical **local** or **server database**. Several connections may be opened **simultaneously** in a session. Use this **connection tool** or the **treeview** to toggle from one connection to the other.

b. Mandate

After connection with the physical database, select a **mandate**. The **list number** of the mandate determines which mandate appears **on top**. The mandate normally holds the accounting of **one single company** or the **consolidated accounts of a number of other mandates**.

c. Select

Main tool for selection in the target **server database**. On the top of the tool form the **current server connection**, **mandate** and **chart of accounts** are indicated.

Manage

a. Windows

A **list of currently open forms**. The list is presented in a **grid**. A **click** on a line will **activate the referenced form**. This tool has been replaced by the **treeview** on the left of the screen.

b. Records

The **records** tool is a **local register of form records**. The user can

remember with this tool **any records presented in an application form** and **recall** the record easily in later sessions. **Drag** a current form (with the right mouse key) over the records tool to **register an entry** with server/unique and descriptive elements. Add a **comment** in the comments field, and modify the **title** if necessary. The entries in the list can be **grouped** according to **priorities** (1 to x). The **header** of the first record is used to **name the priority group**. The record list can be **exported**, transported on a data device and **entered in another sqlFinance application**. This is a valuable option for server applications, where users might access the database from **different installations** and use there **private records selection and notes**.

c. Notes

Notes is a simple tool for the handling of smaller **text elements** during a session. The size of the notes form is easily **adjustable**. You can enter an **unformatted address** in the **text field** and then **drag** the notes tool (using the **right mouse key**) over a **contact form**. The software will **analyse** the text and **fill in the fields** of the contact form in a **meaningful way**.

d. Options

A **list of parameters**. Some parameters can be **modified** by the user. The parameters are organised in a table. To a parameter always belongs a **name** and a **value**, whereas the value can be of **character** or **numeric** type.

- **ODBC_mgr**

A variable to save the name of the **Microsoft ODBC Manager**, usually ODBCAD32X.EXE. The **Microsoft ODBC Manager** can be started from the operating system as well, writing "ODBCAD32X.EXE" into the command window. There are **several versions** of the **ODBC Manager** in the market. The use of some version can lead to very slow responses of the sqlServer. All shippings of **sqlFinance** include a copy of the preferred **ODBC Manager**, usually stored in the directory "**drivers**". ODBCAD32X.EXE is usually installed in the "windows\system32" directory.

- **Date-check**

A system value **influencing the selection of data**. The value of the date-check can be **set in the selection tool** and is remembered for later sessions. **If the date-check is set to 1 ("on"), only records with on non-empty field "date_to" will be selected.** While **date_from** is usually set be default to the current date, **date_to** can be used to **check records** as "**done**" or "**at work**". With a **double click** you can set the value of the **date_to** field to the **current date**. Confirm the update with the "**update**" key. In later selections, this record **will not appear any more**, if **date-check** is set to "**on**". The **date_to** variable is mainly used in **bookings** and **contacts**.

- **Decimal**

The number of **decimal digits** for fields of the type **money** (usually 2).

- **Autoboot**

With autoboot set to "on" (1=default) the system will at **startup** run through **connection** procedures and show the **current mandate** and **all open forms left on the screen when the last session was closed**.

- **Mandate**

The **name** of the **last used mandate**.

- **Translate Check**

Parameter used to activate the **translation into a foreign language** (translation of **field names** and **messages**).

- **Textedit_size**

Default value for the **character size** in the **sqlFinance Text Editor**.

View

a. Keylist

A Key Tool with a number of **keys**, corresponding to **menu positions**. Toggles the keylist visible or invisible. This tool is only kept available for compatibility and user's convenience.

b. Treeview

Toggles the **treeview navigation tool** on the left of the screen **visible** or **invisible**. The treeview size can be adjusted with use of the mouse.

c. Clearing

A tool to **check links between booking records**. Dragging booking records over the clearing tool shows a **list of all linked bookings**. With help of this tool, **debit and credit transactions** can be worked through. In order to **link** booking records, drag the **"fields"** page section of one booking over the **"fields"** page section of another booking.

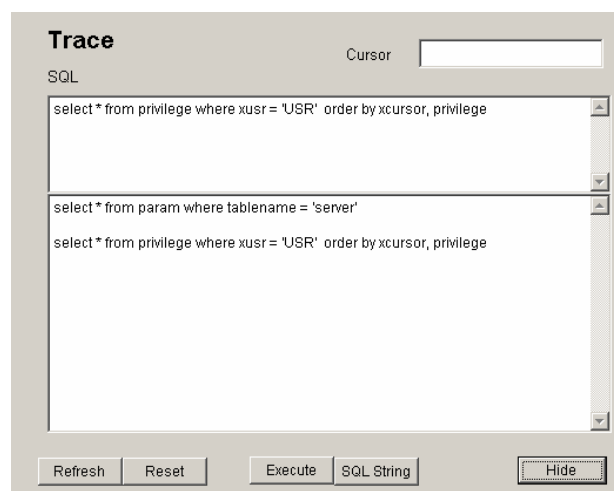
Tools

a. Engine

A powerful system tool managing **database access** and current variables setting. For debugging purposes only.

b. Trace

Tool to **analyse and test SQL statements**. The **last used SQL statement** is shown, as well as **all statements of the last transaction in a log**. The trace tool can be an efficient tool for **advanced users** familiar with **SQL Standard Query Language**. Use the **trace tool** to find out why some selections don't return any records.



the „Trace“ tool

- d. **Replicator**
Replication tool to **copy all add, update and delete operations from one computer to another**. In a **first step**, copy data from one computer and the source data-base to the 'empty_DB', in a **second step** get the 'empty_DB' to the second computer (ex. with the help of a floppy disk or the internet), in a **third step** copy the 'empty_DB' data into the target database of the second computer.
- e. **Errors**
Used for the **display of server error messages** (usually produced from **stored procedures**). All messages of the current session are traced in the error log.
- f. **Help**
Manual pages, stored in the **info table** of the target database (set the **reference** field value to 'tips').
- g. **Info**
Copyright and release information. The **copyright applies to this manual** as well.

sqlFinance is a **registered design (Design No. 126'732 at the Swiss Federal Institute of Intellectual Property)**. The software is **copyright protected**. Even though a part of the software is distributed for free, **you may not distribute sqlFinance without written consent of the owner or use it as part of a commercial product**. The Software is an **exclusive property of sqlFinance, Dr. Peter Halbherr**. Through the **download** you **don't become owner of the product**, but **you receive a license authorizing you to use the software for an unlimited period of time**.
- h. **Quit**
Leave the application

4. Drag and Drop

To **transfer data** from one form to another, **drag and drop** operation is very efficient. In most cases, the forms must be **compatible** and have the **same set of fields**. **One record** or **several records** can be copied. The two forms may belong to **different mandates** or even **different databases** – eventually this way data may be copied from a **remote computer or server** to a **local computer or server**. To copy entire **sets of data** however, it is commended to use rather the **'replicator'** tool.

As an example, there might be **two equal forms connected to two different databases**, or **two booking forms of two different periods** (selected as details of two different batches). Dragging the fields frame over the target form will **automatically start the insertion of a new record and copy the field values**. The user then is **asked for confirmation** with a **click on the update key**.

In the **Customer Relationship management (CRM)** however, dragging **address, person or position** information over the **contact** form adds each time the **respective data elements and a link**, leading to the full client contact information (as required by the "know your customer" specification).

In the following, find a list of **special drag and drop features**:

a. Accounts

To copy accounts from one chart to another, proceed as follows:

- With use of the selection tool, **open a form** with accounts of a chart.
- Again with the use of the selection tool, **open a chart form**, enter a new chart.
- On the **new chart form**, use the **detail key** to select **accounts** (no accounts will be found; the form is empty but **ready to accept new account entries**).
- **Drag page one of the first account form over page one of the new (empty) account form**.
- The software will **add a new record**, copy the account **field values**, and then **ask** if you just want to enter **one record** or **continue the entire list**: answer yes or no.

b. Products

Dragging product data from one form to another leads to a different behaviour. Products can be organised in a **Bill of Materials (BOM)**. The **Bill of Material** is a hierarchical organisation of **master products grouping a number of detail products**, whereas the detail product again may be master of other detail products. A **Bill of Material** can easily be viewed through **cascades of product forms**. Using the detail key, select connected detail products, and get back to master products with help of the master key.

In order **to set a new connection** between a master and a detail product, **drag the "fields" page** of one product form over the **"fields" page** of another product form. The software will enter a **new connection** (in the point table) and confirm with a message: **"connected"**. To **disconnect** a detail product, use the **"disconnect"** key of its form (the **product must have been selected as a detail of a master product** and not with use of the selection tool) to have this function **available**.

c. Processes

Process forms can be organized in **cascades** the same way like product forms. **Drag** the **"process"** over the **"contract"** to organize the contracts into **groups (pools)**, for example key accounts, small accounts, groups of special interest, etc.

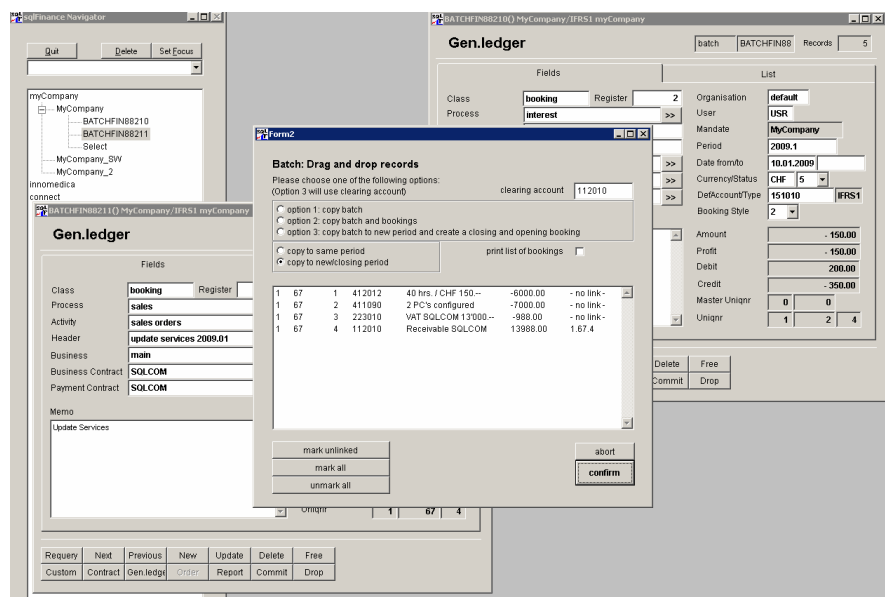
d. Batches

Very practical is the **copying** of a **batch** with use of **drag and drop**. Drag a batch from one form over another (batch) form. This will make appear a **dialogue form** offering the following **three options**:

1. copy batch
2. copy batch and bookings
3. copy batch into a new period and create a closing and reopening booking

Option (3.) is mainly used for the **closing of open debit batches** at the **end of a yearly period**. This function requires the entry of a **transitory account** (e.g. a receivables account). Furthermore the user can decide if the closing and reopening bookings should include a detail list of the bookings in the closed batch.

For all three options the user can choose, if the batch should be copied to the **current period** or to the **new period**. The new period is usually the closing period of the current period (registered in the period form). In the transfer **all date entries are adjusted** (e.g. 30.6.2008 to 30.6.2009).



Overview of Drag and Drop dialogue window with batch forms

Batch: Drag and drop records

Please choose one of the following options:
(Option 3 will use clearing account)

clearing account

☐ option 1: copy batch
☐ option 2: copy batch and bookings
☐ option 3: copy batch to new period and create a closing and opening booking

☐ copy to same period
☒ copy to new/closing period

print list of bookings ☐

1	67	1	412012	40 hrs. / CHF 150.--	-6000.00	- no link -
1	67	2	411090	2 PC's configured	-7000.00	- no link -
1	67	3	223010	VAT SQLCOM 13'000.--	-988.00	- no link -
1	67	4	112010	Receivable SQLCOM	13988.00	1.67.4

Detail view of the dialog form

e. Task Manager

Dragging any table over the **task manager** ("records" tool): Drag the "fields" page of any open form over the grid of the task manager to get a new entry right away. Use the **"SelectForm"** key to reselect the record.

f. Contacts

Drag **person, position and address** over the **contact** form: The **"contact"** table integrates information from the **"address", "person" and "position"** tables. Normally, not only name, position and address are copied to the "contact" table, but also the **reference numbers** (server/uniqnr) of these links.

The **contact** form can be opened as a **detail** of the **address** form. In the address, use the detail/contact key to get to the contact, and enter **"new"**. The record will **inherit many values** of the "address" entry. The contact entry will also store the system number of the address entry.

To link the **"person"** and **"position"** entry as well, drag the **"fields"** page of one of these forms over the **"fields"** page of the **"contact"** form: the values (as well as the reference number) will be copied. Note that the **"address"** entry may be dragged the same way, but it is more convenient to use an (address-contact) master-detail relationship.

g. Receivables

A **sales batch** is usually **cleared to zero** with a **receivable entry**, whose **amount equals the total of the bill**. After **reception of the payment**, drag the **receivable entry** over another **receivable form**. A **new entry** with the **negative amount** will be prepared. Just click **update** to commit. The two records, belonging to two different batches, are now **linked together**. In the **linked state** both records appear in **italic characters**. The link may be **erased** using the **"disconnect"** key. **Unlinked records** will appear in **normal characters** again. To get from one record to the (linked) other one, use the **detail key (or alt-F3)**. Use the **clearing tool** to get a **list of linked bookings**.

The screenshot displays the sqlFinance software interface, specifically the 'Contact' form. The 'Contact' form is highlighted with a red circle. It contains fields for 'Address', 'Person', and 'Position'. Arrows point from the 'Contact' form to the 'Address', 'Person', and 'Position' forms, indicating references. The 'Address' form shows fields like 'Name', 'Street', 'Zip/Location', 'Box', 'Holding', and 'Telex/Registar'. The 'Person' form shows fields like 'Name', 'First', 'Last', 'Sal/Title', 'Civil Status', 'Children', 'Mail', 'Language', 'Xusr', and 'Prop. Count'. The 'Position' form shows fields like 'Position', 'Grp', 'Level', 'Class', 'Education', and 'Language'. The 'Contact' form also has a 'Text' field and a 'List' of records. The interface includes a menu bar, a toolbar, and a status bar.

**Contact form with reference to
address, person and position**

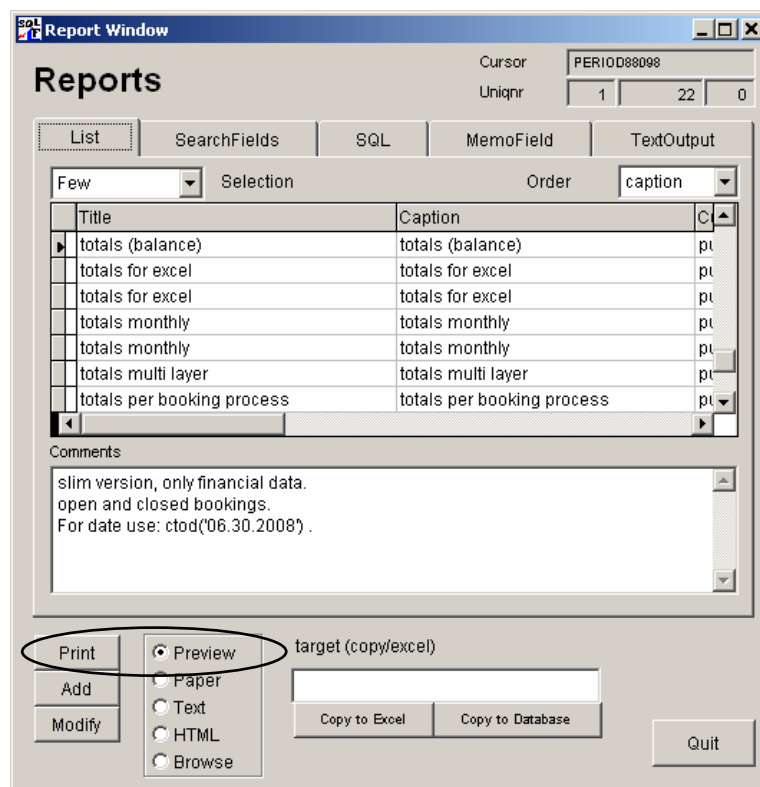
5. Reports

In order to start **reports**, consider the **data model**: the best reports are always found in the **master forms** and will select the **current master record** and the **details joined** to it. For example, a report based on a **period** entry will typically show all the **batches and bookings of that period**.

In **sqlFinance**, some reports can be started from the **selection tool**. In most cases however it is **much easier to start the report from a form**. In this case, the report can use information **starting from the current record** (joining further detail records) or information about the **list of current records**. The **list of current records** is used **if the report includes no SQL statement** (in the "fields" page of the report tool). If a **SQL statement** is provided, data is selected as a **detail to the current record**, as indicated in the **where clause of the SQL query**.

The **data list** is used, if in the report **no** further specifications for a **SQL statement** are present (see page "fields" of the report tool). As soon as an SQL statement is **given**, the search proceeds from the **current data record** and selects **connected details** according to the formulation of the query. Through **modification** of the SQL statement the user can add **additional fields** to the search or further limit the search in the **"Where-Clause"**.

Without use of any additional **license** it is possible to **modify** the **reports** and their appearance. In order to receive for example a report of a period, one clicks in the period form on the button **"report"** and activates the appropriate **tool**.



The Reports tool started from the period form

In the report list, find the **report "balance totals"**. Click on the **"modify"** button in the "report" window to modify fields and appearance. **Confirm** with **ctrl-w**. Through **clicks** on the list view, the report may be directed to the preview, to the screen, to a printer, or in "ASCII" or "HTML" mode to a field on page three of the reports form. **Double click** on that field to edit or export the text to an external file. A more **condensed output** can be produced with the report **"totals for excel (slim)"**.

Mandate: MyCompany		totals for excel (slim)		18.03.09
Period: 2009.1		Base Table	period (102)	01.01.09 - 31.12.09
1 Assets		Total CHF		
1120	Receivables			7,532.00
1180	Liquid Assets			-2,748.00
1310	Material Assets			4,000.00
Total Type 1 (Assets)				8,784.00
2 Liabilities		Total CHF		
2230	Tax VAT			684.00
Total Type 2 (Liabilities)				684.00
Profit Total				8,100.00
3 Expenses		Total CHF		
3230	Infrastructure			5,050.00
3410	Finance Expenses			50.00
Total Type 3 (Expenses)				5,100.00
4 Earnings		Total CHF		
4120	Sales Goods			13,000.00
4410	Finance Revenues			200.00
Total Type 4 (Earnings)				13,200.00
Profit Total				8,100.00
Grand Total				0.00

Sample report with balance totals

In addition to the report **"balance totals"** there is also the report **"balance total slim multi layer"**. This report can be used for **contribution accounting**. Accounts belong to **groups**, and the groups may be associated with different **partitions**. The contribution accounting will make apparent how the **margin** evolves as revenue and expense accounts belonging to another partition are added. As an example, **partition one** would show **gross margin** of sales minus cost of sales, **partition two** the **net margin** after deduction of additional overheads, and **partition three** the **company profit** after consideration of financials, taxes etc. The grouping of accounts can be used for the balance as well as for the profit and loss statement.

6. Keyboard Shortcuts

The following key combinations can be used in forms:

*CTRL-E:	edit text
*CTRL-S:	select
*CTRL-N:	next
*CTRL-P:	previous
*CTRL-A:	add
*CTRL-U:	update, save and quit in text form
*CTRL-D:	delete
*CTRL-Q:	requery
*CTRL-K:	keep
*CTRL-R:	report
*CTRL-G:	grid (page)
*CTRL-L:	list (page)
*CTRL-Z:	quit
*CTRL-F2:	master
*CTRL-F3:	detail
*CTRL-F1:	search (activate)
*CTRL-F10:	commit (in update mode: pay)
*ESC:	drop (and update the detail field with the value from the master table record)

VI. Support & Contact

Need support for the installation or use of **sqlFinance**? Do not hesitate to contact us. Our team is ready to answer your questions and offer you an efficient solution for your business application.

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Phone: +41 44 383 88 22
Fax: +41 44 383 14 25

sqlFinance Report Preview - balance_total1.frx - Page 2		
Mandate: Innomedica	totals (balance)	19.03.09
Period: 2005.1		01.01.05 - 31.12.05
<hr/>		
2 Liabilities		
Account		Total CHF
<hr/>		
2110 Eigenkapital		
211010 Aktienkapital		800,000.00
211020 ges.Reserven		400,000.00
211030 Reserven f.eigene Aktien		445,734.28
211040 Freie Agio Reserven		110,317.22
211090 Gewinnvortrag		-870,001.02
		886,050.47
2120 Kreditoren		
222010 Kreditoren		15,877.25
223010 AHV		1,587.70
		17,464.95
2130 Fremdkapital (langfristig)		
213070 Wandelanleihen		73,704.00
		73,704.00
2190 Abgrenzung passiv		
219020 a.o.Trans.Passiven		5,380.00
		5,380.00
Total Type 2 (Liabilities)		982,599.42
Profit Total		78,961.94

sqlFinance Report Preview - balance_total1.frx - Page 4

Mandate: Innomedica	totals (balance)	19.03.09
Period: 2005.1		01.01.05 - 31.12.05

4 Earnings

Account	Total CHF
4210 Währungsgewinne	
421010 Währungsgewinne	16,143.06
	16,143.06
4410 Finanzertrag	
441010 Finanzertrag Zinsen	5.93
	5.93
4420 Handelsertrag	
442020 Ertrag Wertschriftenhandel	1,300.00
442021 Bewertungsgewinn eigene Aktien	92,915.10
	94,215.10
4421 Handel eigene Aktien	
442022 Handel eigene Aktien	5,060.68
	5,060.68
Total Type 4 (Earnings)	115,424.77
Profit Total	78,961.94
Grand Total	0.00

Page 4

process/accounts (master process)			
Process: booking		01.07.09	
Process	booking	master booking process	
Class	booking	includes as detail all booking processes	
Count	20	(entered in the batch windows)	
Account	112010	Receivables (main)	Main Receivables Clearing Account
Group	1120	accounts receivable	
Account	118050	SBC Bank Account	Bank Account Swiss Bank Corporation
Group	1180	liquid assets	
Process	sales	sales orders	
Class	business		
Count	4		
Account	112010	Receivables (main)	Main Receivables Clearing Account
Group	1120	accounts receivable	
Account	223010	VAT Payables	VAT Value Added Tax Clearing Account
Group	2230	tax VAT	(payables and payments)
Account	412020	Hardware	Computer Hardware (PC)
Group	4120	sales goods	
Account	413010	Sales of Services (goods)	Installation and Maintenance
Group	4130	sales of services	
page 2		01.07.09	