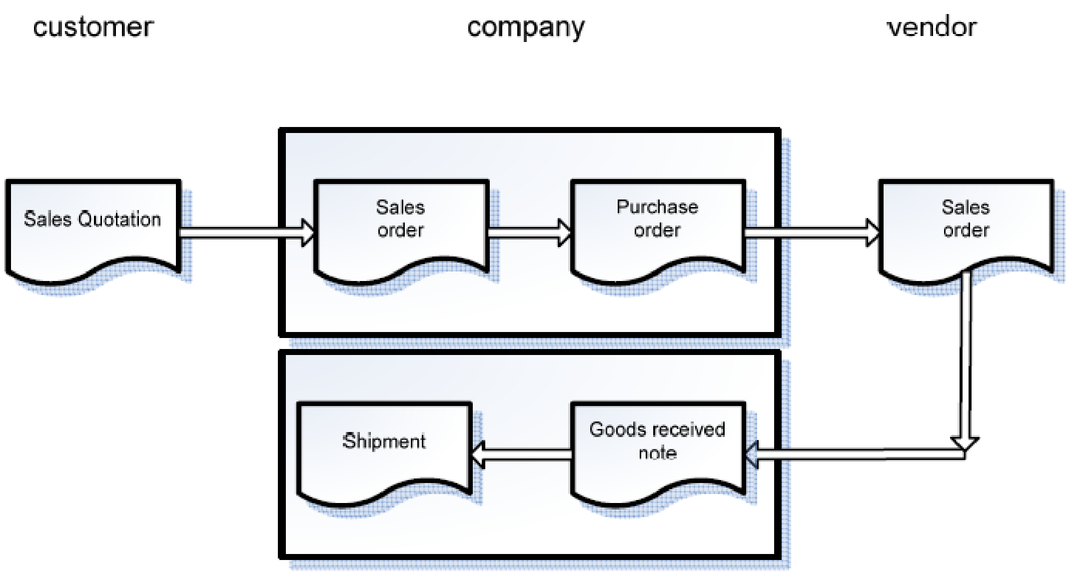
I. Basic Concepts on ERP

1. Enterprise resource planning (ERP)

Enterprise resource planning (**ERP**) is the planning of how business resources (materials, employees, customers etc.) are acquired and moved from one state to another.

An ERP system is based on a common database and a modular software design. The common database can allow every department of a business to store and retrieve information in real-time. The information should be reliable, accessible, and easily shared. The modular software design should mean a business can select the modules they need, mix and match modules from different vendors, and add new modules of their own to improve business performance.

2. A typical business process



3. The ERP software: **phpBMS**

phpBMS is web-based, open source, Business Management Software (BMS). It is designed for companies looking for an application to manage their business. A system that is capable of creating and printing sales orders, tracking clients and prospects, fulfilling accounts receivable needs, and printing detailed sales and purchasing reports.

Using an ERP system, companies are able to optimize the cost of sales, develop new approaches to increasing sales, improve operation efficiency, and much more.

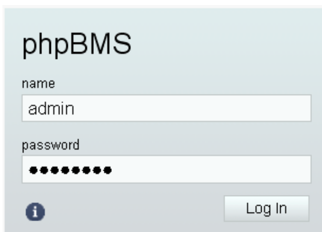
II. Objectives of this lab session

1. Use **phpBMS** ERP to simulate a basic business process;
2. Generate and check the key reports in the process.

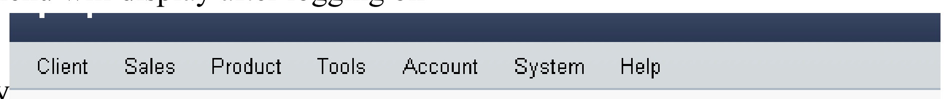
III. Experiencing phpBMS

<u>Log on phpBMS and configure basic information</u>

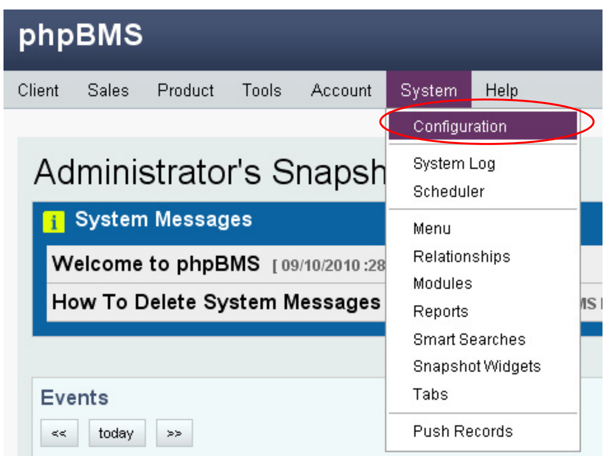
1. Open the link http://localhost/phpBMS/index.php in the web browser.
2. Log on the system with the administrator account:
   User: admin
   Password: 11111111



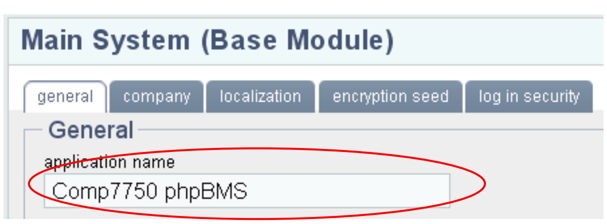
3. The main menu will display after logging on successfully



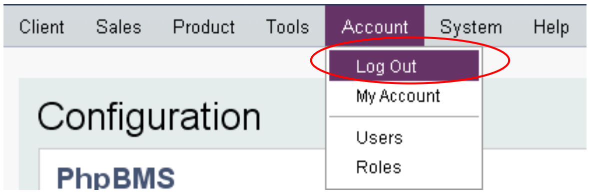
4. Press “System” and select “Configuration”



5. Change the application name

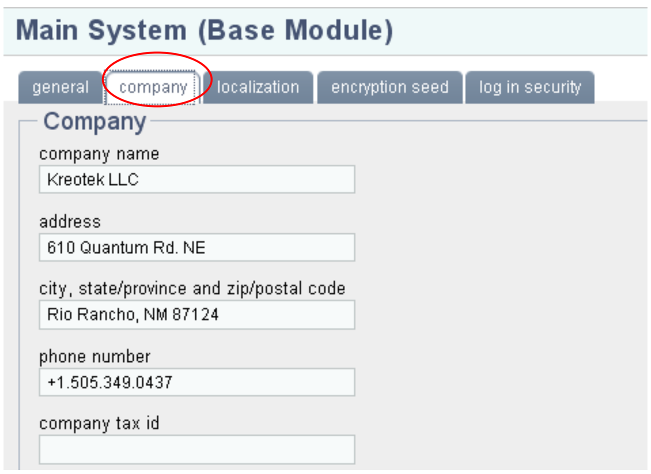


6. Press “Account” and select “Log Out”

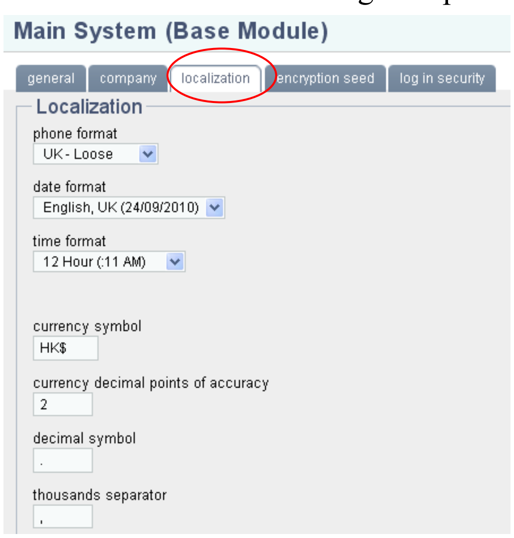


7. Re-log in the system as described in 2.
8. The application name has been changed.

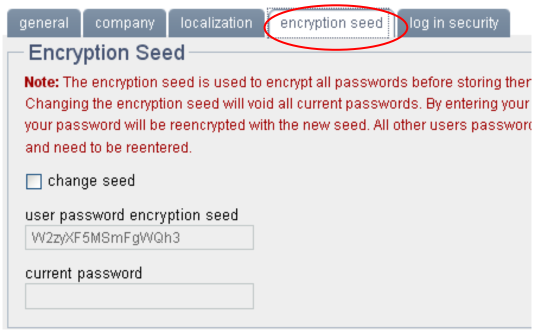
9. Press “System” and select “Configuration” as described in 4.
10. Press “company” and input the information of your company.

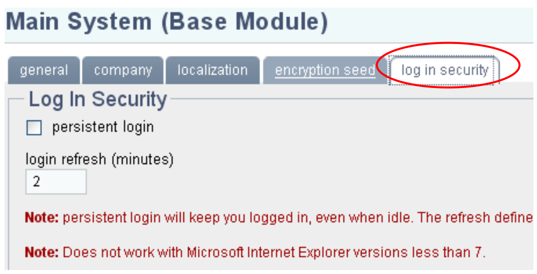


11. Press “localization” to change the phone, date, and currency format.

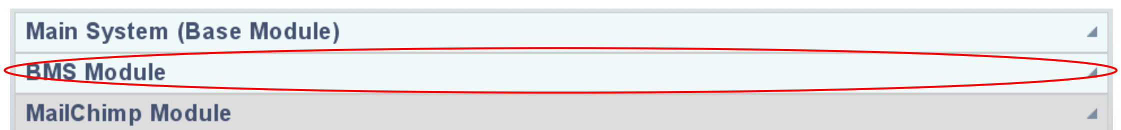


12. For security, the “encryption seed” and “log in security” properties can be changed.

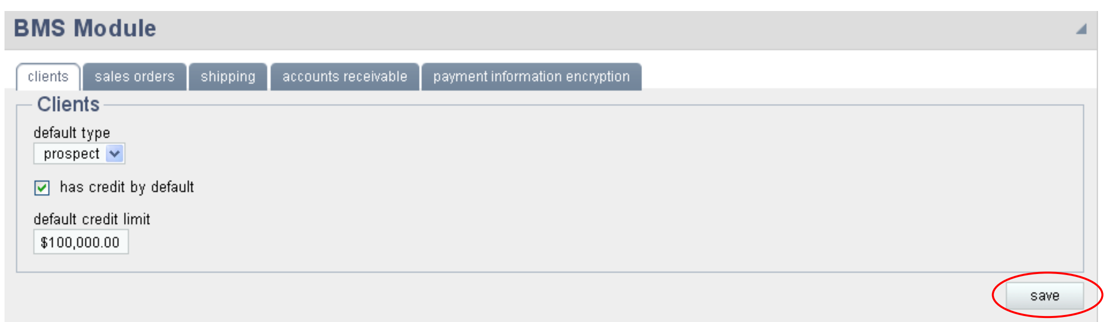




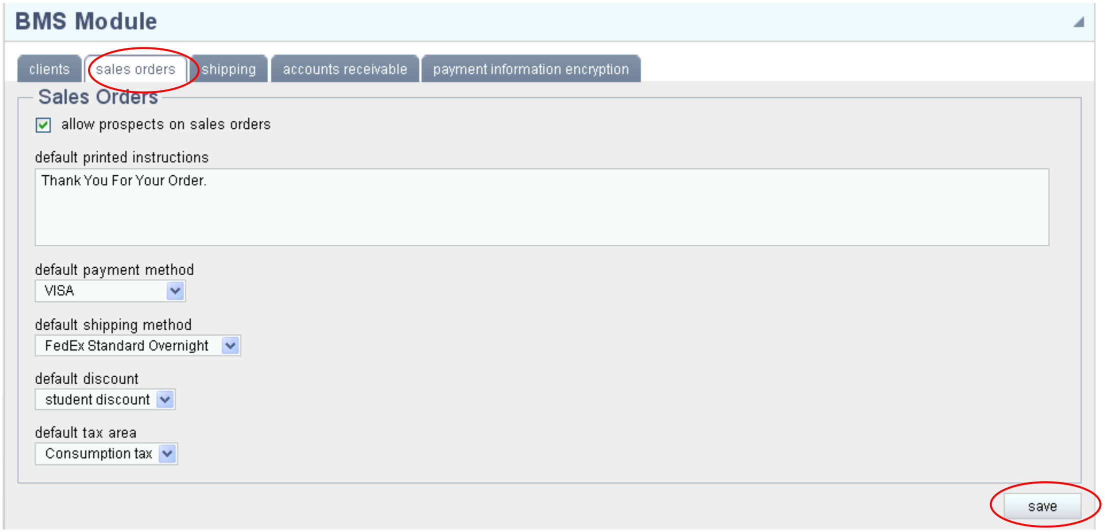
13. Press "BMS Module" to unfold the options



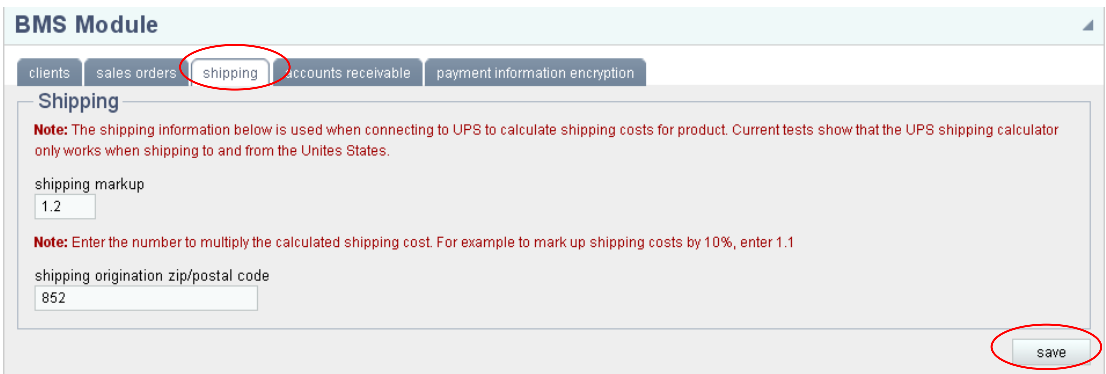
14. Set client default properties, and press "save"



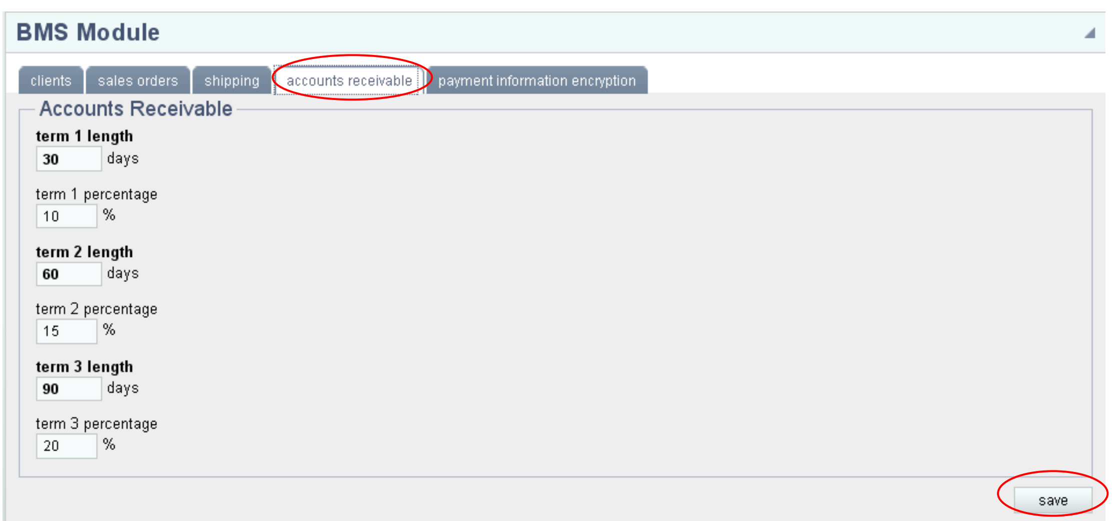
15. Press "sales order". Set sales order default properties, and press "save"



16. Press “shipping”. Set shipping default properties, and press “save”

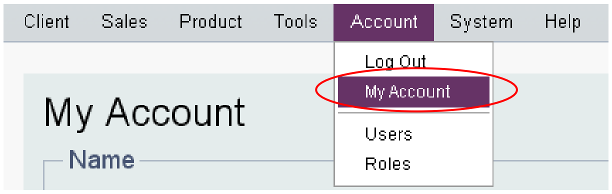


17. Press “accounts receivable”. Set accounts receivable default properties, and press “save”

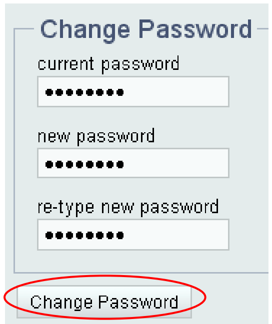


Manage account and create users

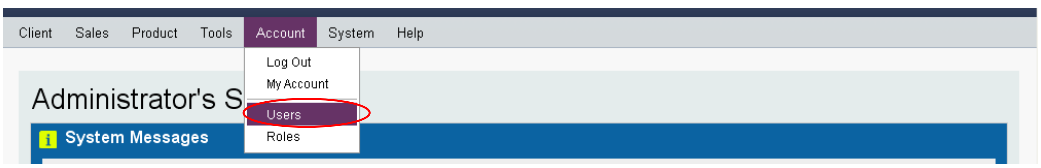
1. Press “Account” and select “My Account”



2. Input new password and press “change password”



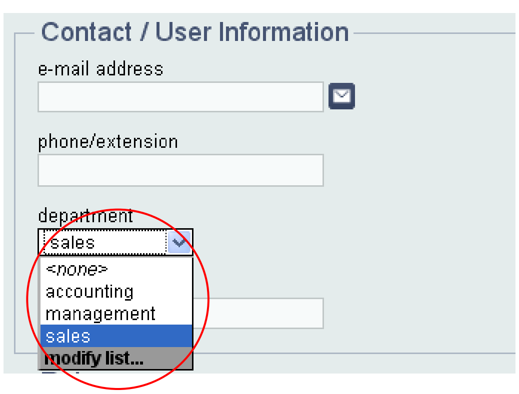
3. Press on “Account” in the main menu, and then select “Users”.



4. Create a sales user

Press on . Input the user’s name and “log in” name.

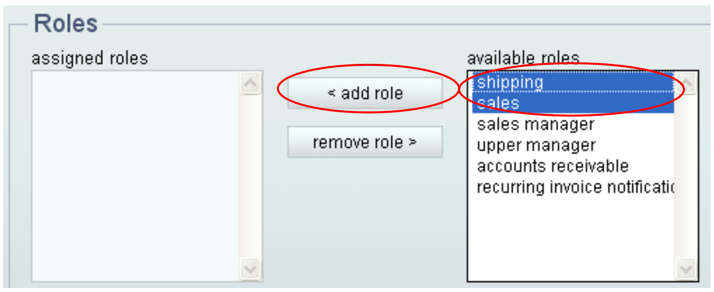
Input other user info and select department



Then press “save”

UserRoles allows administrators to restrict access to many areas of phpBMS, including what screens users can view, what columns and search items they can see, and what functions they have access.

To assign roles for the sales person, select “shipping” and “sales”, and then press “add role”

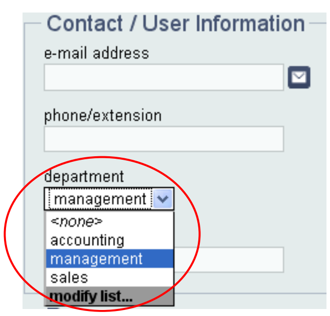


Press “save”

5. Create a sales manager

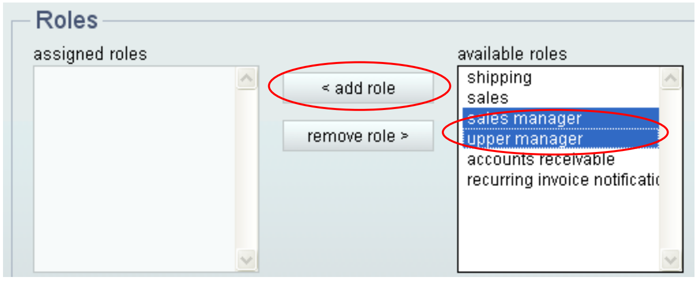
   Press on “Account” in the main menu, and then select “Users”. Press on . Input the user’s name and “log in” name. (Note: d**on’t** select administrator attribute).

Select department



Then press “save”

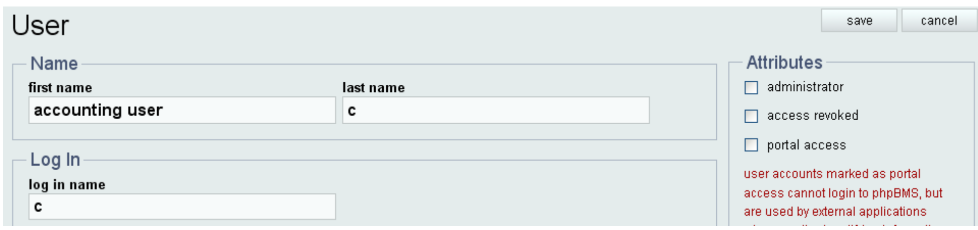
Select “sales manager” and “upper manager” then press “add role”



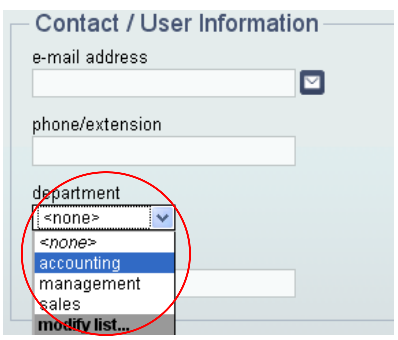
Press “save”

6. Create an accounting user

   Press on “Account” in the main menu, and then select “Users”. Press on . Input the user’s name and “log in” name.

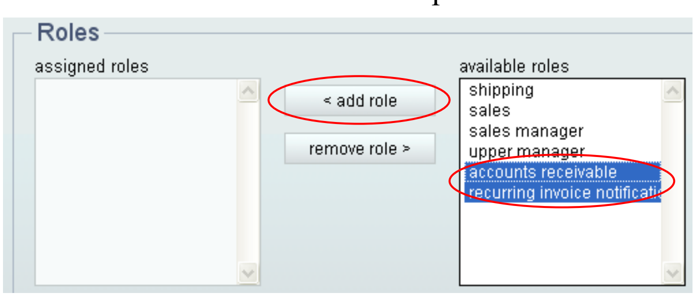


Select department



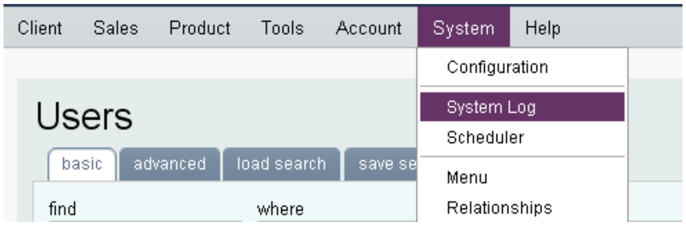
Then press “save”

Select “accounts receivable” then press “add role”

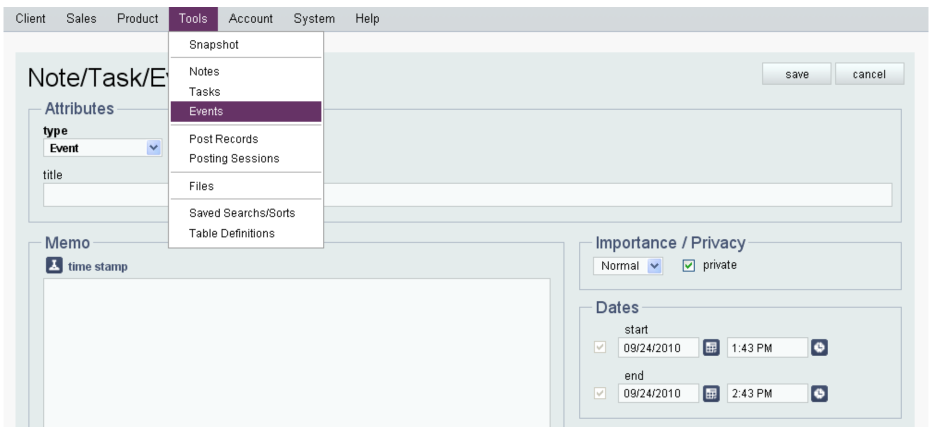


Press “save”

7. Press “System” and select “System Log” to check the system log



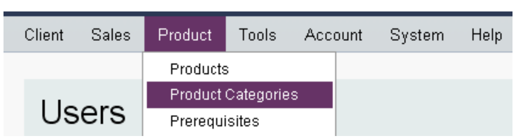
8. Press “Tools” and select “Notes”, “Tasks”, or “Events” to record daily notes, tasks or events



Manage products, clients and sales properties

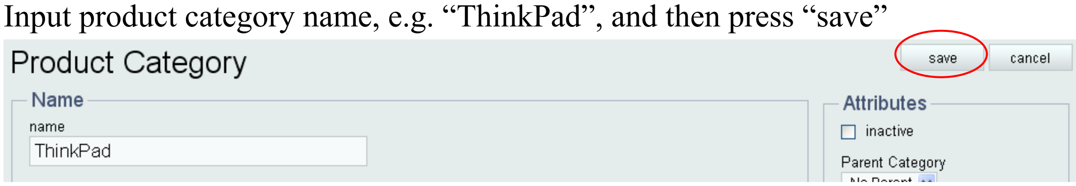
A. Create products

1. Press “Product” and select “Product Categories”

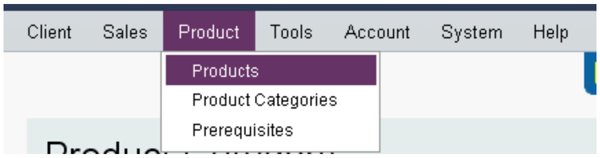


2. Click  to create a new product category

3. Input product category name, e.g. “ThinkPad”, and then press “save”

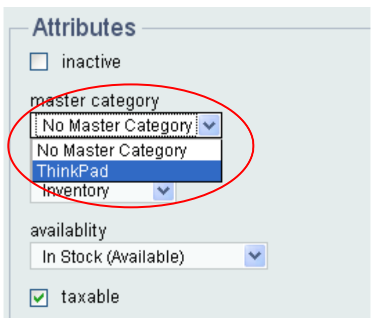


4. Press “Product” and select “Products”

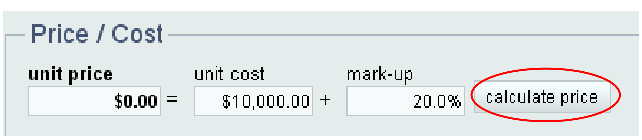


5. Click  to create new product, and fill in identification description, e.g., name "ThinkPad W510" and part number "1111"

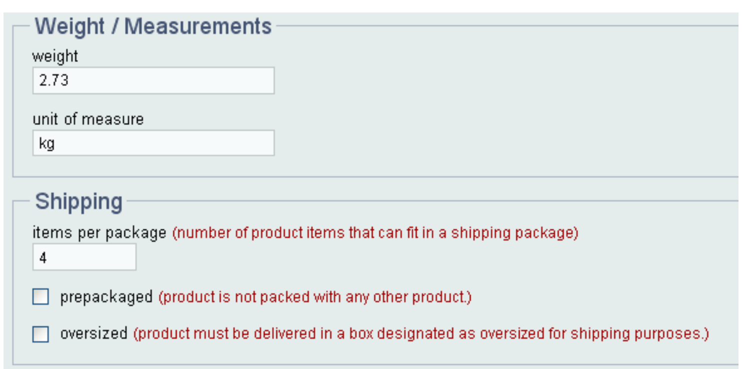
6. Select the master category ("ThinkPad" you created in step 3)



7. Input the unit cost and mark-up, then press "calculate price"

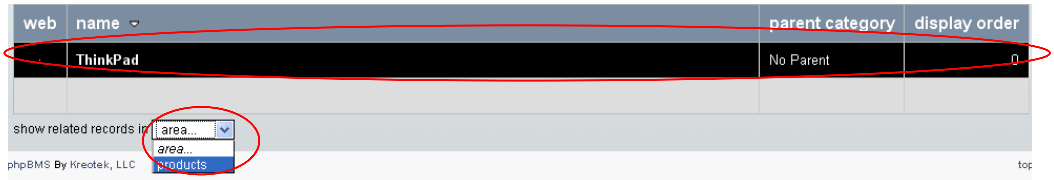


8. Input weight and shipping information



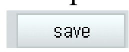
9. Press 

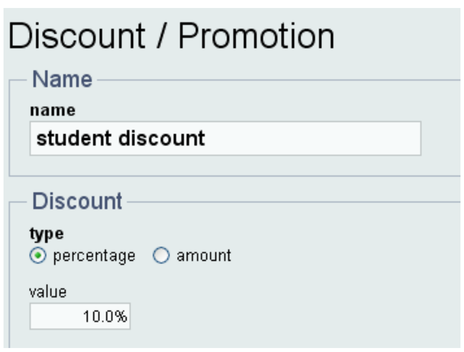
to save the new product record.
10. Press "Product" and select "Product Categories". Select product category "ThinkPad", and the related record "products"

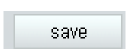


11. Products in the select categories are shown

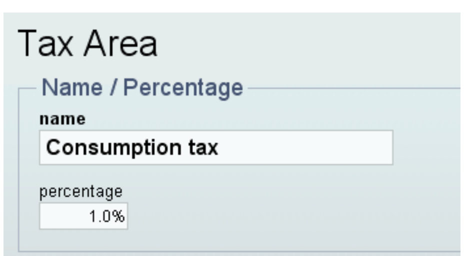
B. Set up sales properties

1. Press "sales", select "discounts" and press  to specify the special discount (e.g., "student discount"). Then press 



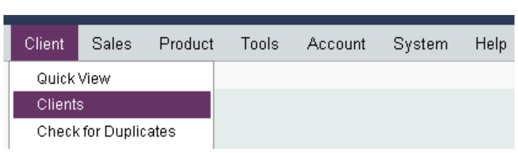
2. Press "sales", select "Tax Area" and press  to specify the kind of tax. Then press 

.

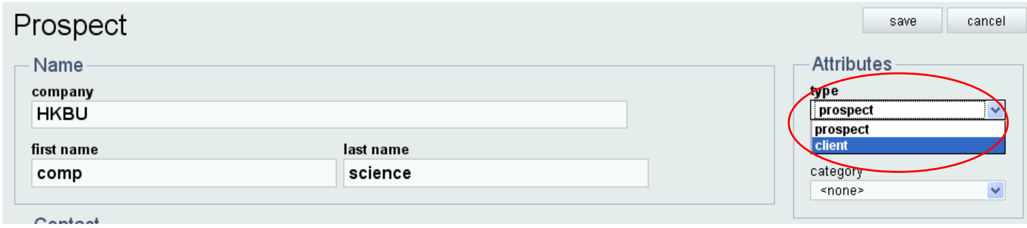


C. Create clients

1. Press "Client" and select "Clients"

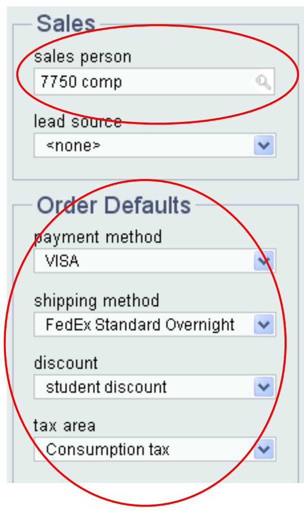


2. Input the client's information, and then select attributes as "client"



3. Input contact information, e.g. address

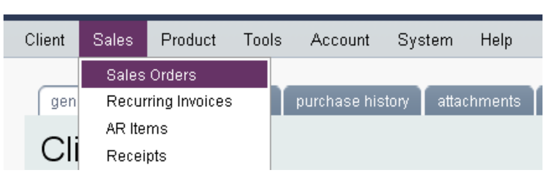
4. Type the sales person's name and select order defaults



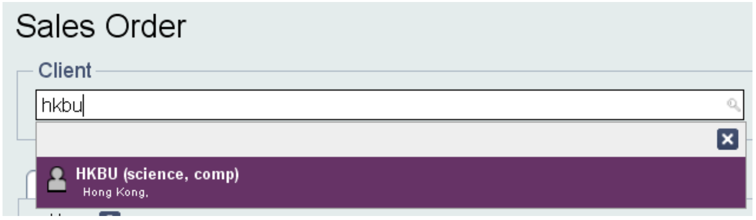
Managing sales orders

A. Create sales quote

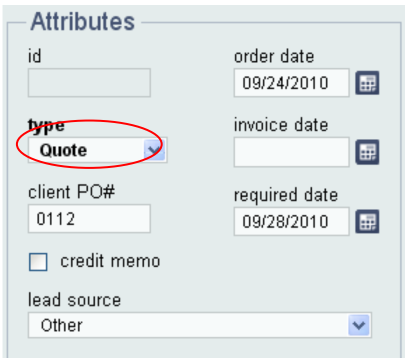
1. Press "Sales" and select "Sales Orders". Then press + to create a sales order



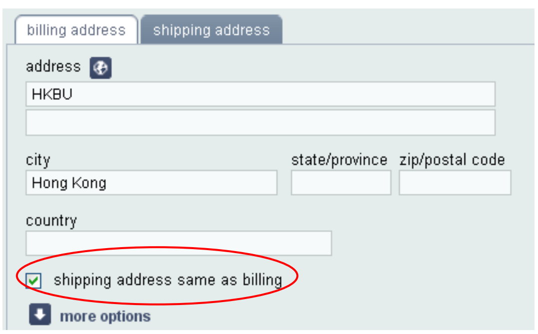
2. Type the client name (that you created before) then select the client



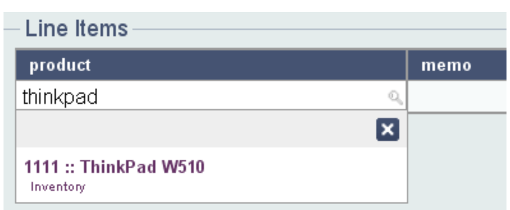
3. Select type as “Quote” and fill in other information



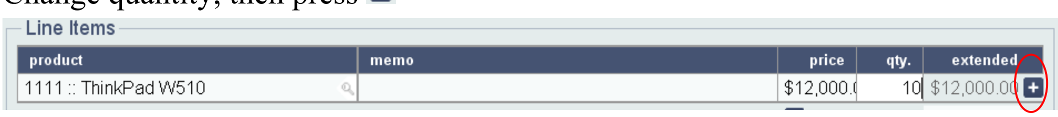
4. Set shipping address as billing address



5. Type product name to select product

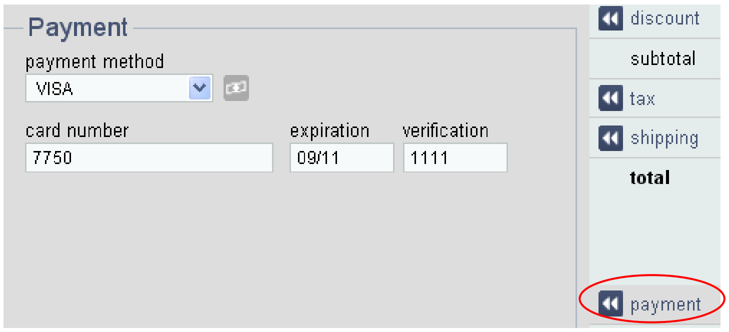


6. Change quantity, then press 



7. Clicking on “shipping” and input “tracking number”, e.g. 3210.

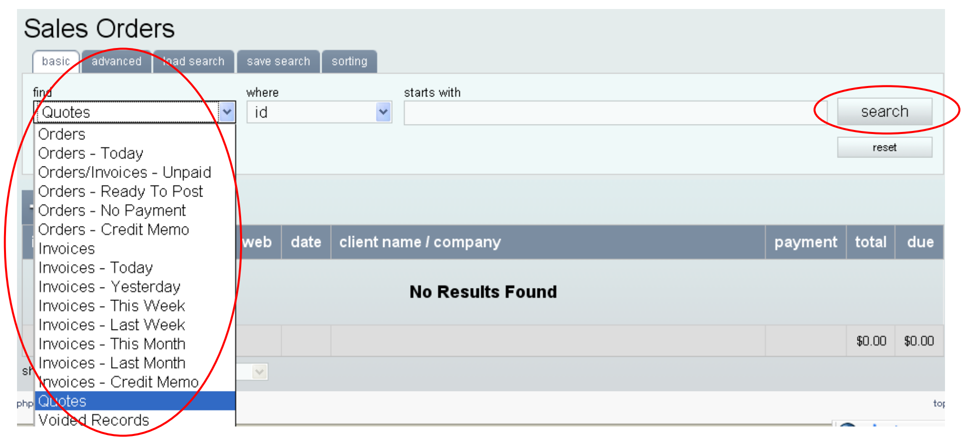
8. Clicking on “payment” and input credit card details



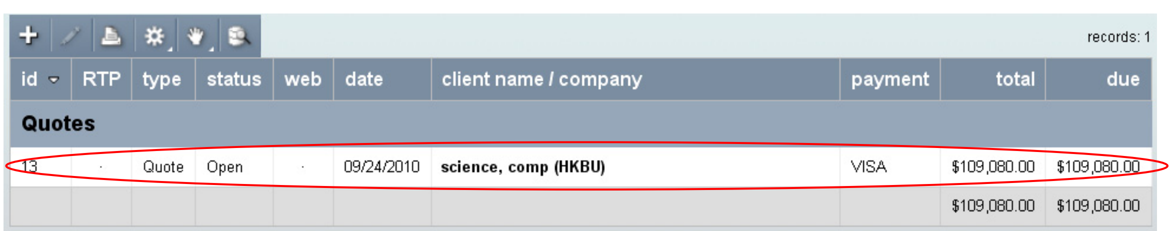
9. Press “save”

B. Create sales order

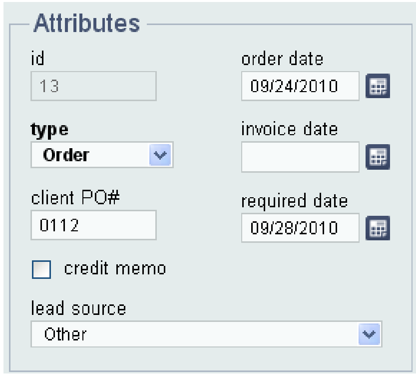
1. Press “Sales” and select “Sales Orders”. Clicking on “find” and select “Quotes”. Then press “search”



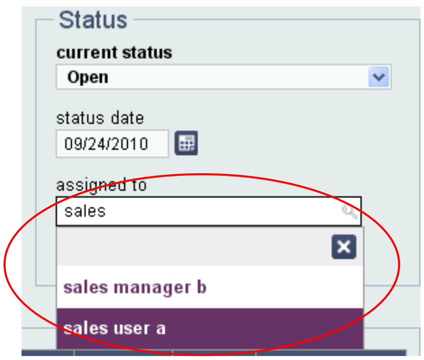
2. Double click on the newly created quote



3. Change attributes of “type” as “Order”



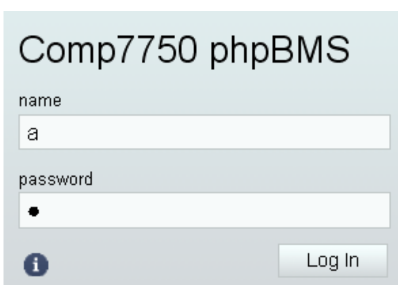
4. Assign the order to a sales person (e.g., “sales user a” created before)



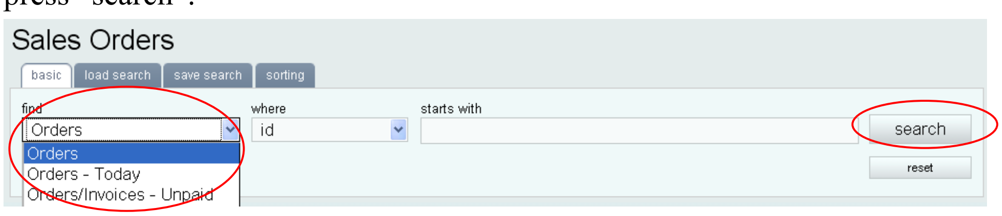
5. Press “save”

C. Log in as a sales person and follow the order

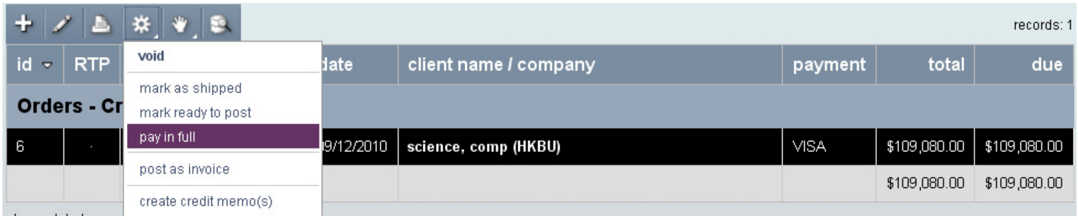
1. Log out the system and then log in as a sales user, i.e., the account that you created before



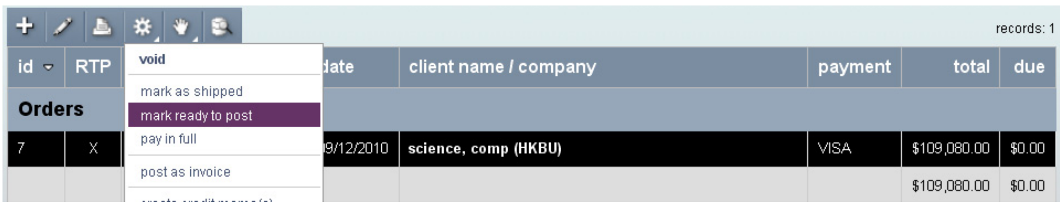
2. Press “Sales” and select “Sales Orders”. Point to “find” and select “Orders”. Then press “search”.



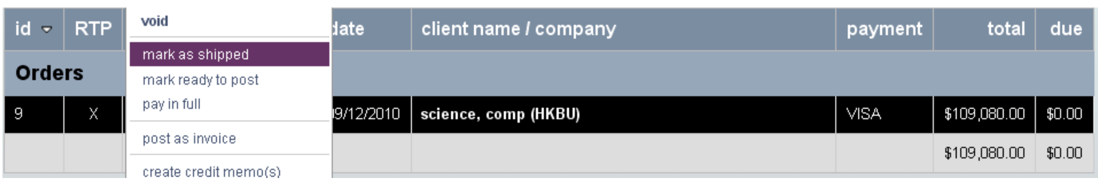
3. Select the sales order. If the client has paid the money, press ⚙ and select “pay in full”, “due” will become zero.



4. Press ⚙ select “mark ready to post”, if the products are ready.



5. Press ⚙ select “mark as shipped”, “status” will become “shipped”.



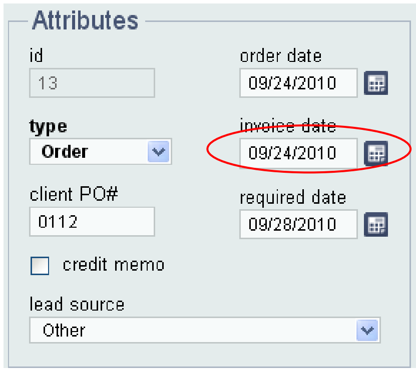
D. Create invoice from sales order

1. Log out from the sales user account, and log in with the administrator account

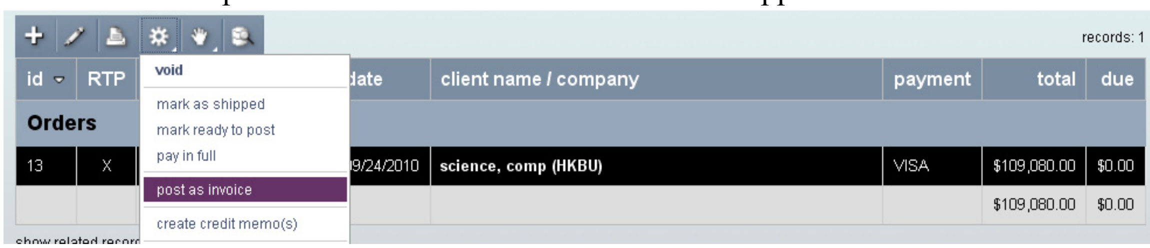
2. Press “Sales” and select “Sales Orders” to view the sales orders. Point to “find” and select “Orders”. Then press “search”.

3. Double click on the sales order.

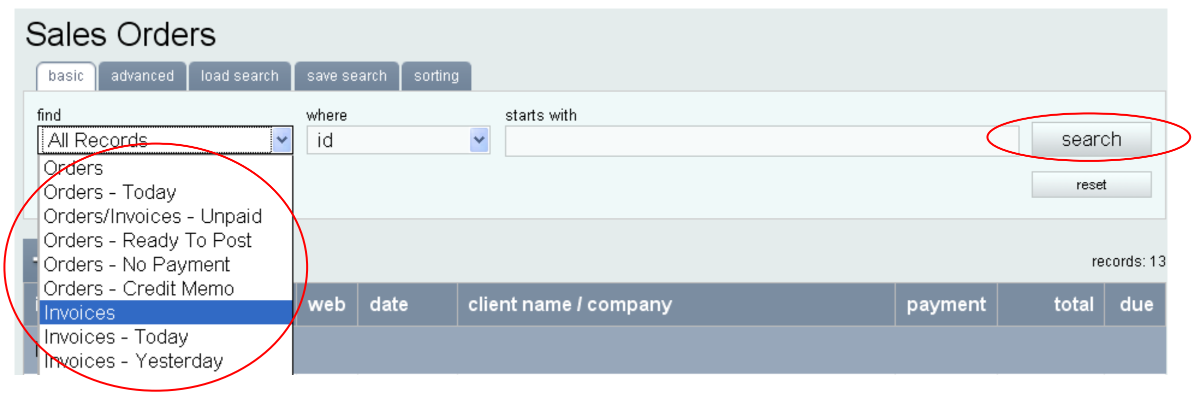
4. The invoice date is automatically generated



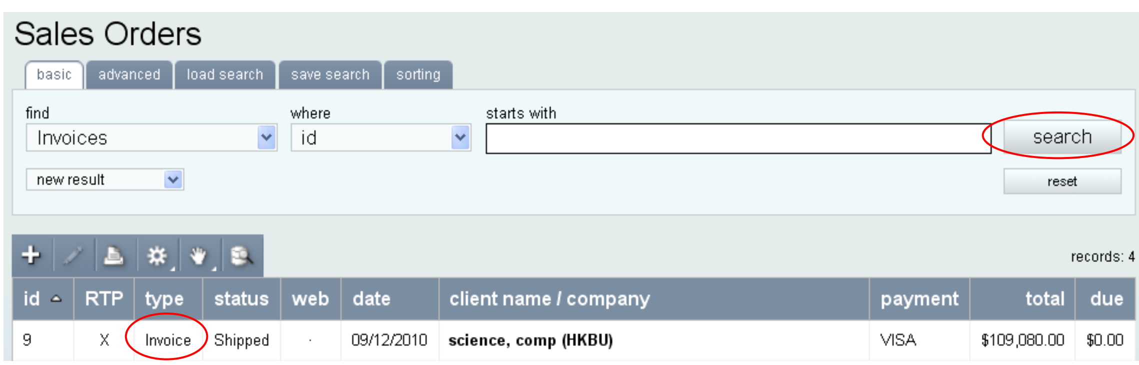
5. Press "Sales" and select "Sales Orders" to view the sales orders. Select the order. Press  select "post as invoice". Then the sales order disappears.



6. Point to "find" and select "invoices". Then press "search".



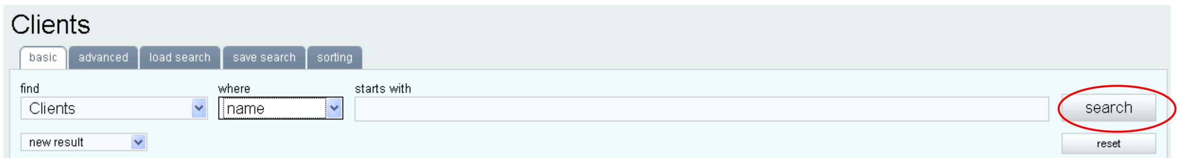
7. The order's type is changed to invoice.



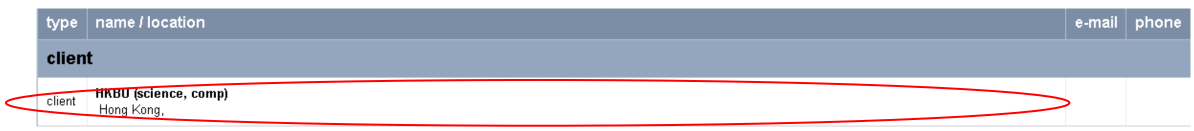
Note: A full payment must be entered before posting an order. If no payment has been made and you still wish to post a sales order (convert it to an invoice), you must select an Accounts Receivable (AR) payment method such as Net 30. Once an AR or full payment has been made, it is possible to post the sales order. Once a sales order has been posted, it will be impossible to change any information on the sales order.

E. Create Accounts Receivable items

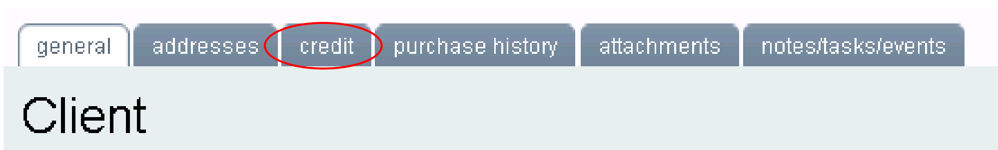
1. Press “Client” and select “Clients”. Then press “search” to search clients.



2. Double click on the client



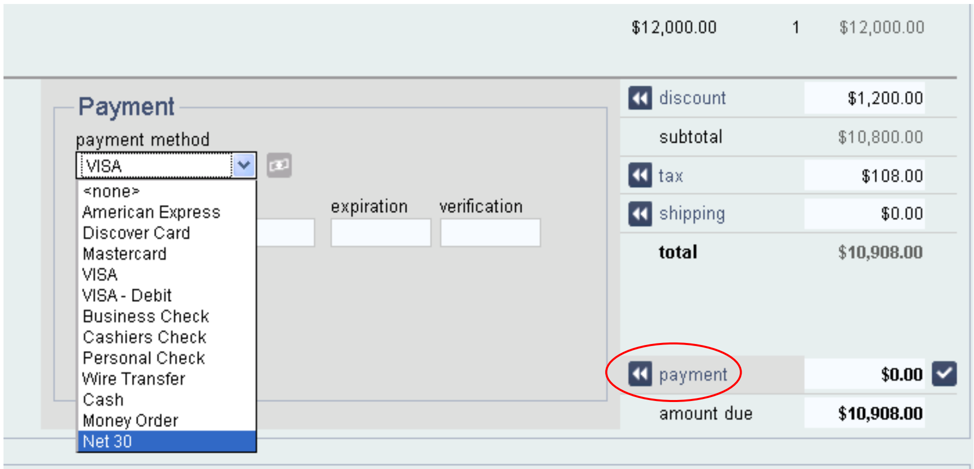
3. Press “credit”



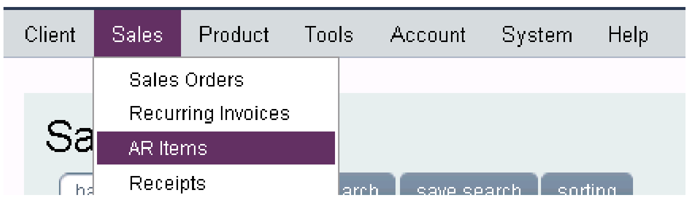
4. Select “has credit” and set the credit limit, e.g. 200,000. Then press “save”

5. Press “Sales” and select “Sales Orders”. Press + to create sales order
6. Type client name e.g. “hkbu”, then select client
7. Type product name, e.g. “thinkpad w510” and select product. Then press +

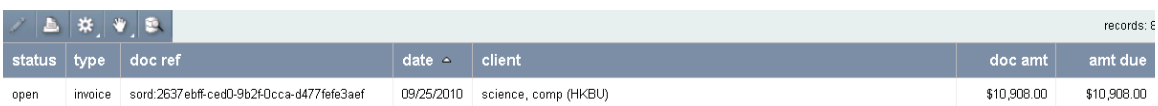
8. Point to “payment” and then select “Net 30”. Then press “save”



9. Repeat the processes described in C 3 to C 5 and D 5
10. Press “Sales” and select “AR Items”

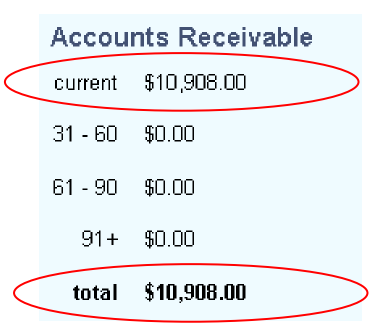


11. Press “search”



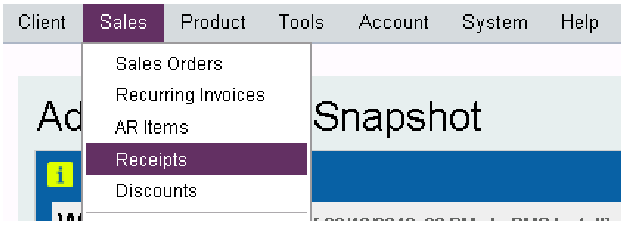
12. Press the application name

13. Check “Accounts Receivable” on the homepage



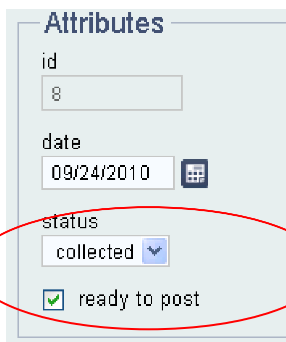
F. Create receipts

1. Press “Sales” and select “Receipts”



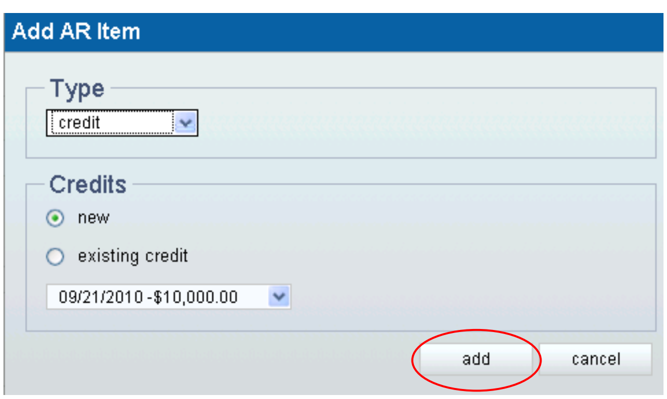
2. Press ＋ to create receipts
3. Input the client name, receipt amount and selection “payment type”

4. Select “status” as “collected” and mark as “ready to post”

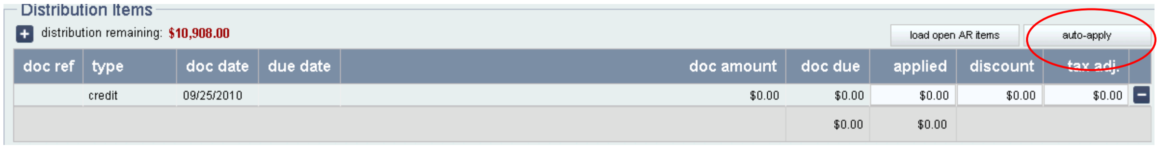


5. Press ＋

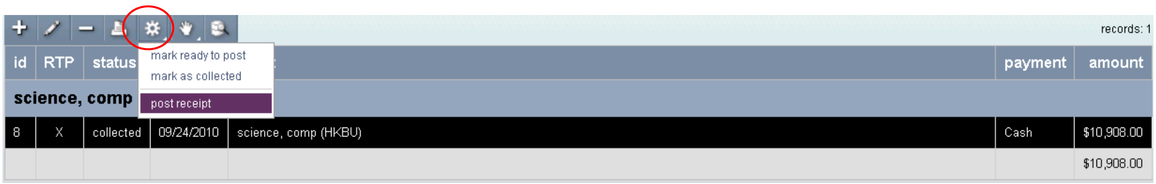
6. Press “add”



7. Press “auto-apply”

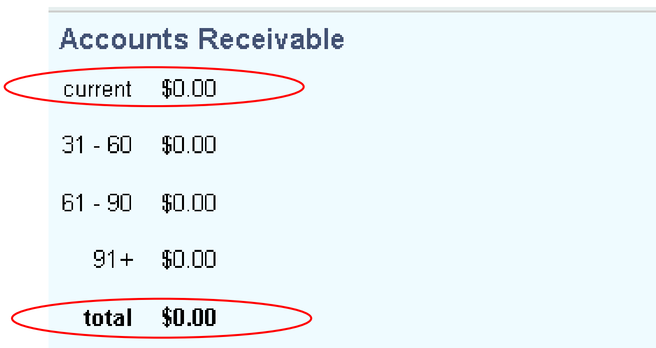


8. Press “save”
9. Press “Sales” and select “Receipts”. Select the receipt, press , then select “post receipt”



10. Press on the application name

11. Check the “Accounts Receivable”

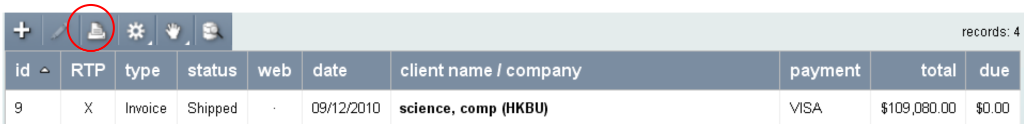


Note: the difference between “invoice” and “receipts” --- If you customer wants to know what he is paying for he should be able to read the invoice which will have all the information about the transaction including quantity and description of the goods or service, price, additional charges including shipping and taxes, the total price and the payment terms.

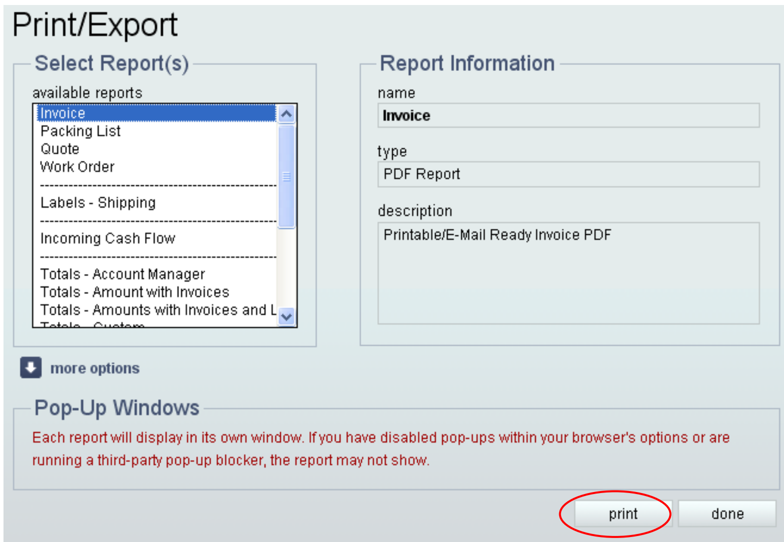
The receipt should show date of payment, method of payment, amount of payment and a reference to the invoice the payment relates to. It should also show any balance still due.

G. Printing invoice and purchase history

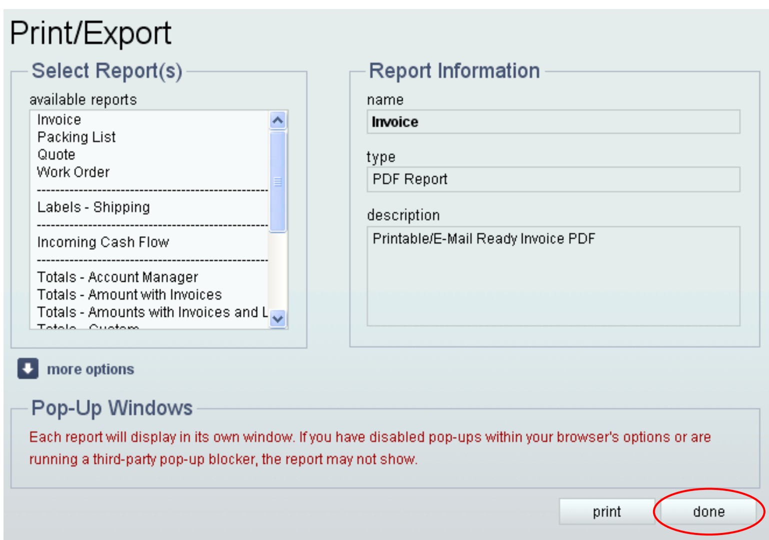
1. Print invoice: select the invoice, then press



2. Select available reports as invoice, then press “print”

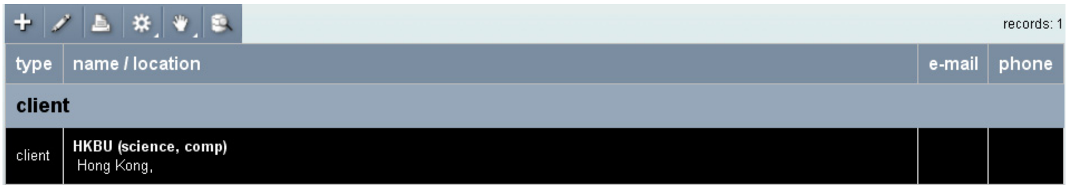


3. Press “done” to return to the main menu.

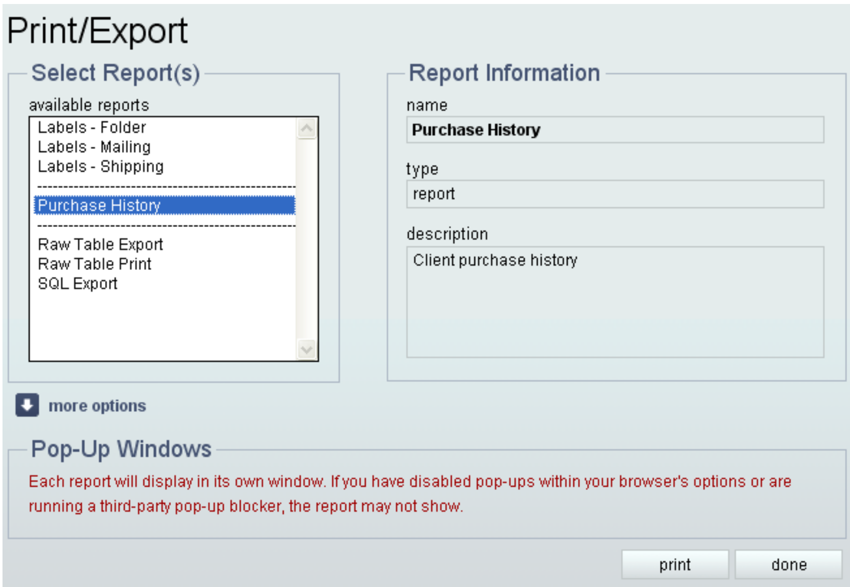


4. Print client’s purchase history: press “client” and select “clients”. Then press , select “select all”.

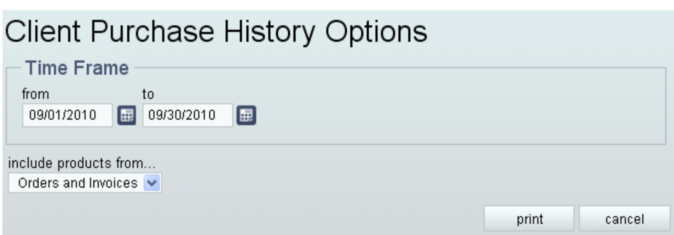
5. Press 

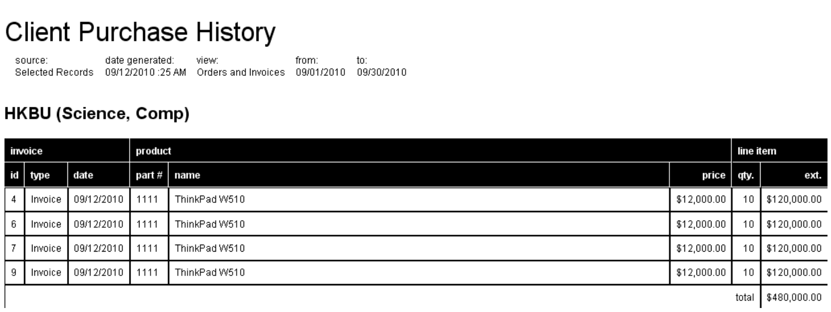


6. Select available reports as “Purchase History”, then press “print”



7. Press “print” to generate report.





Client Purchase History

source:	date generated:	view:	from:	to:
Selected Records	09/12/2010 :25 AM	Orders and Invoices	09/01/2010	09/30/2010

HKBU (Science, Comp)

invoice			product			line item	
id	type	date	part #	name	price	qty.	ext.
4	Invoice	09/12/2010	1111	ThinkPad W510	$12,000.00	10	$120,000.00
6	Invoice	09/12/2010	1111	ThinkPad W510	$12,000.00	10	$120,000.00
7	Invoice	09/12/2010	1111	ThinkPad W510	$12,000.00	10	$120,000.00
9	Invoice	09/12/2010	1111	ThinkPad W510	$12,000.00	10	$120,000.00
						total	$480,000.00

Try the online demo with different types of users

1. Open the link http://www.phpbms.org/trial/index.php

2. log in with different roles
   Shipping Personnel
   username: shipping
   password: shipping
   Sales Personnel
   username: sales
   password: sales
   Sales Manager
   username: salesmanager
   password: salesmanager

3. repeat the functions described before and check the accessing rights of different roles

Appendix

Try STATISTICA free trial

STATISTICA provides the most comprehensive array of data analysis, data management, data visualization, and data mining procedures. Its techniques include the widest selection of predictive modeling, clustering, classification, and exploratory techniques in one software platform.

Introduction to data mining:
http://www.youtube.com/watch?v=1VQ1qzgdRSs&p=B804A810436AFB03&index=1

Download the free trial from http://www.statsoft.com/support/free-statistica-9-trial/ by clicking "download the free 30 day STATISTICA version 9 Trial" and install the downloaded file.

Then try the following two data mining tools:

1. Classification analysis

Follow sessions 3 & 17:
Session 3 (introduction to the data set)
http://www.youtube.com/watch?v=mTDD5W70CnE&p=B804A810436AFB03&index=3

Session 17 (decision tree for classification):
http://www.youtube.com/watch?v=f0eCYQY4gcQ&p=B804A810436AFB03&index=17

Find dataset through "Help" -> "Open examples", and then open "datasets" folder to open the file named "CreditScoring"

Find the classification analysis tool from "Statistics" -> "Mult/Exploratory" -> "Classification Trees"

2. Clustering analysis

Follow sessions 27 & 28:
Session 27 (introduction to the data set and data cleaning):
http://www.youtube.com/watch?v=WvR_0Vs1U8w&p=B804A810436AFB03&index=28

Session 28:
http://www.youtube.com/watch?v=f1nP7BizrSA&p=B804A810436AFB03&index=27

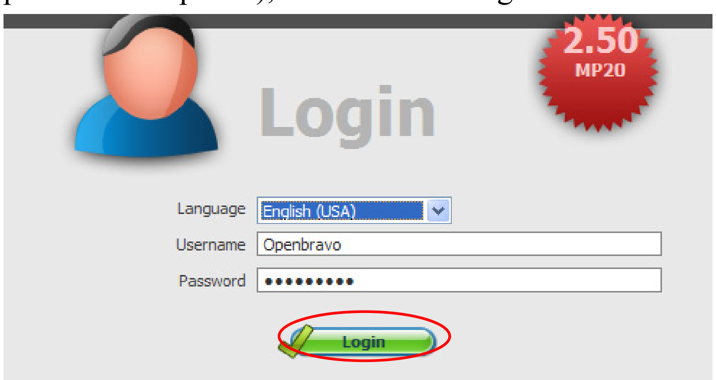
Find dataset through “Help” -> “Open examples”, and then open “datasets” folder to open the file named “Marketing”

Find the clustering analysis tool from “Statistics” -> “Mult/Exploratory” -> “Cluster”

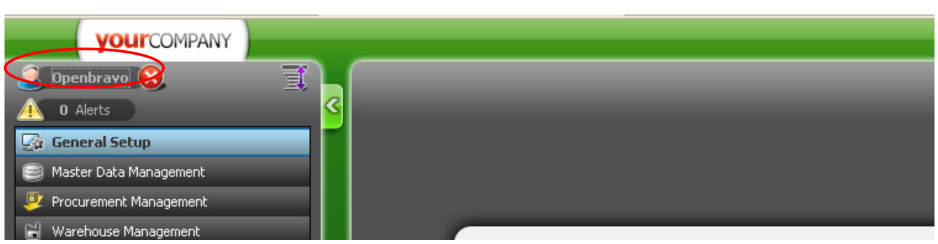
Try Openbravo ERP online demo (and compare with phpBMS)

Openbravo ERP is a web-based open source ERP, improving the world’s efficiency by making modern ERP accessible to all companies worldwide. The system’s functionality enables a company to automate a wide range of business processes such as Integrated Accounting, Sales & CRM, Procurement, Inventory, Production, and Project & Service Management.

1. Go to http://demo2.openbravo.com/openbravo/security/Login_FS.html (username and password are preset), and click on “Login” button.



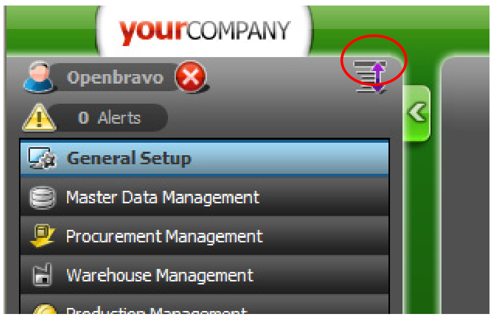
2. Click on  to configure the company information



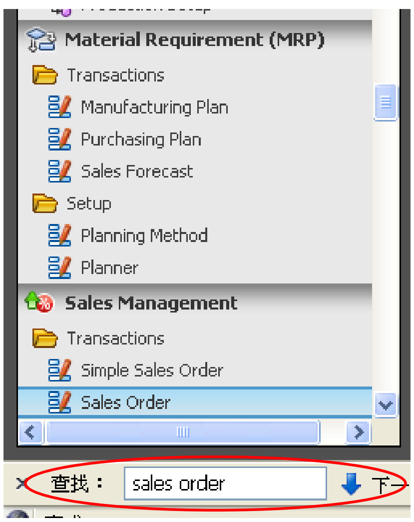
3. Press “OK”

View sales orders

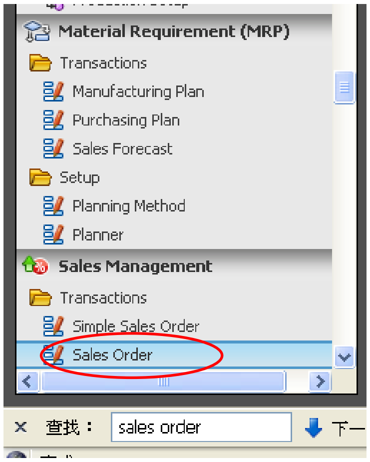
1. Click on  button to expand the menu



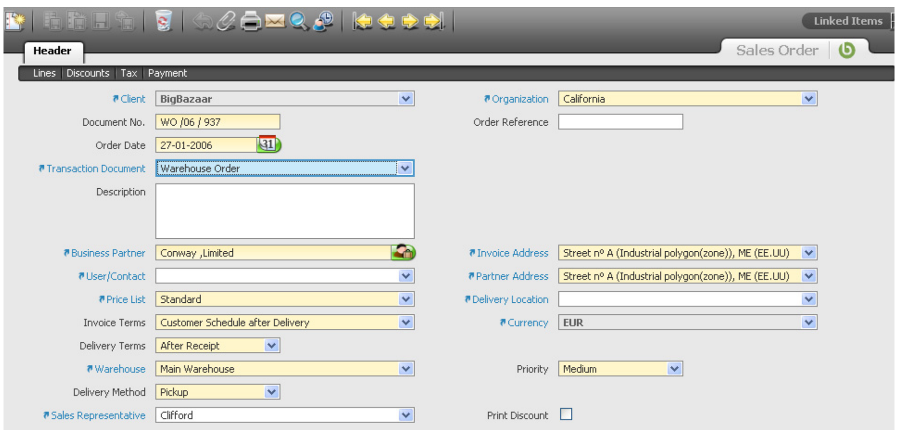
2. After the menu is expanded, press “Ctrl”+ “F” to search for the function “Sales order”

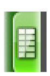


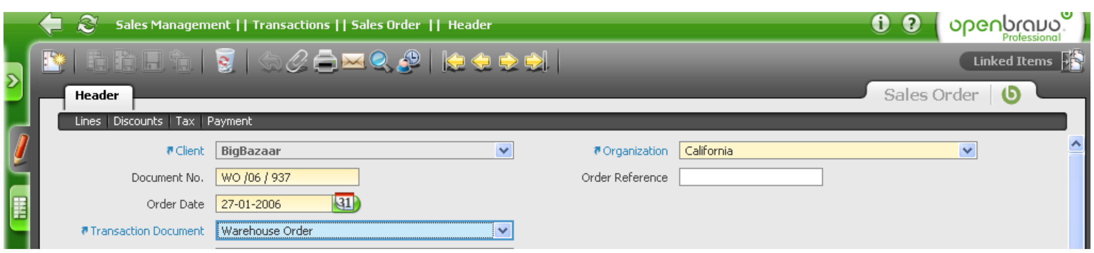
3. Click on “Sales Order”



4. A form of a sales order is shown. Press  to view previous or next order.



5. Press  to view orders in form of table



6. Press  to export or print the data.