EHA

Enlightened Health Alternative

Contents

Assignment 1

Client

Business Name

EHA - Enlightened Health Alternative

Description of client

EHA can be described as a small business. The purpose of the business is to provide alternative health care options to people in the community.
The business has one owner, and consists of a workforce consisting of only two people, namely a Health care Practitioner(the Owner) and a General Administrator.
EHA is an existing business, currently making use of a hand filing system and Microsoft Excel to service a number of existing customers and patients.
EHA conducts business by allowing patients to make appointments to see the Health Care practitioner, and also by selling supplements to the patients.
The owner wishes to expand the business at minimal cost, and also create an online presence.

Description of the proposed system

The system will be installed on a computer running a Windows 7 **operating system**. The system will be designed to compliment the existing workflows and integrate easily into the existing business.

The application system boundaries characterise the system into 3 major components:

1. The **Database**: this will be an open source **relational** database

2. **Administration**: Consists of a **Supplement Stock control** system and **Invoice** generation system

3. **MIS -** Management Information System

Scope of the proposed system

1. The **Database**:
    - **Main Function** - To organise, store and access data. This will be an open source relational database. A **Database interface** is needed to enter the current existing data into the database as the point of entry, so the client can immediately start using the system.
2. **Administration**: **Supplement Stock control system**
    - **Main Function** - Managing information of the supplements, product information and stock levels. The purchase price of the supplement as well as the mark up price must be available. An invoice is created for each transaction or order. When an invoice is made, the HCP must have the option to change the cost for a supplement. Each invoice needs to have a unique number. This number is used as reference in EFT payments by the customer. If the customer is a patient, then the ID number of the patient needs to reflect on the invoice. The customers can pay either cash or EFT. At the end of each day the HCP/GA verifies the payment and updates the system. The stock levels are updated accordingly. Both the HCP and the GA can add and update the stock and stock levels. If the stock levels go down beyond a specific level then a warning needs to be created to alert the HCP or GA that new stock needs to be ordered. There are different warning levels for different supplements, as some supplements get ordered more regularly than others.
3. **MIS** (Management Information System)
    - **Main Function** - To reflect an overview of the system at any given time. Displaying information such as: The names of the patients for the specific day. The upcoming birthdays for the patients. A list of the supplements that should be ordered (low stock levels). A summary of the number of patients that were seen for the month / year. A summary of the supplements sold during the last month / year. A list of the top 10 supplements sold during the last month / year

Extended scope - User Roles

The following users have been defined and user privilege constraints will be enforced on the system:

- **Super User -** Has Full access to the database and code of the system.
- **HCP -** Does not have access to the database, the structures or the coding. All access and viewing must be through the GUI. The HCP can create invoices and add new products to the supplement stocks. Only the HCP can update the pricing structures for consultation fee, the percentage of mark up that should be used for new supplements and whether discount can be given to a specific patient. The MIS reports are only visible to the HCP.
- **GA-** No access to the database, the structures thereof or the coding. All access and viewing is done through the GUI. The GA can make appointments, create invoices and add products to the supplement stocks.
- **Patient -** The patient will be able to use the mobile application. Be able View his/her appointments as well as the supplements prescribed. He/she will receive, via the application and system a reminder of the next appointment as well as information on specials and general information; this can be done via a sms or e-mail.

Community

Who is the community?

Eldoraigne local community, Centurion, Pretoria.

Why this community?

Access to affordable and efficient healthcare is a challenge in Southern Africa. The elderly struggle not only with gaining physical access to clinics and hospitals, but also with awareness of health conditions and access to healthy supplements to meet health care needs in their old age. Children and adults or pensioners need efficient alternative health care. There are various hospitals and doctors, but this community has very few alternative health practitioners. There are various retirement villages, schools and families in the area that can benefit from this system.

Describe the community

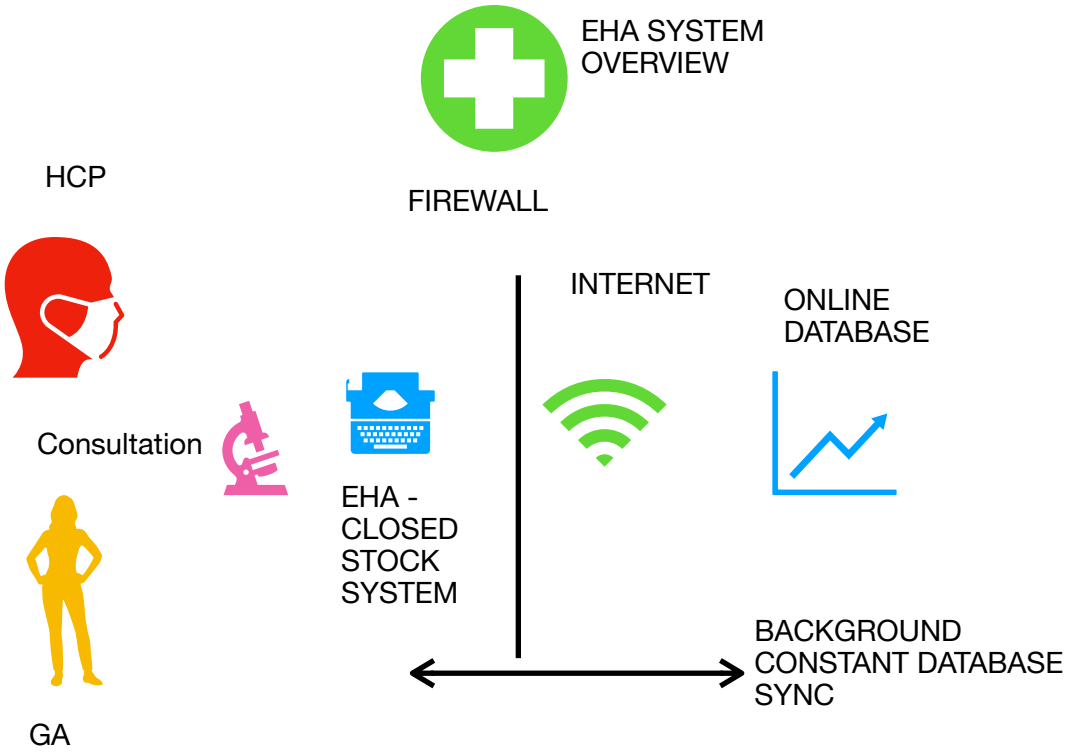
The community is quite large, consisting of people of all ages - from children to pensioners. It consists of families or single individuals and couples, or even people living in retirement villages, apartment complexes and private houses. The demographic area covers about 5km^2 and includes many small neighbouring communities and suburbs, and all can benefit from alternative health care in this community. There are various schools is the area. The languages spoken are mainly English and Afrikaans, but it is a mixed community consisting of many different cultures and languages. Employment ranges from big companies in the area, to small businesses run by individuals in the community. There are shopping malls nearby, and the there has public transport available and the Gautrain station is situated nearby. There is a community Library and various community projects.

Why does the community need this software system?

Alternative Health services should be age friendly and respond to the changing care needs of older women and men as they age. This includes the availability of medicine and supplements, health care workers that are trained and prepared, and the technology to provide the appropriate alternative health care. This software system can provide the support needed to aid the elderly in ageing with grace, dignity and excellent health. With access to a mobile app, patients have easy access to information to assist them with excellent health care. Families and individuals can benefit from having alternative health nearby in the community.

Assignment 2
Preliminary Literature Review

Introduction
The system is meant to ease the general administration for Health practitioners, and facilitate access to information for the patients. With the help of a database, the practitioners can easily store and view information about the patients and supplements, and an **MIS** (Management Information System) is used to easily view important information. A stock control system is used to manage information of the supplements, products and stock levels. Patients can use a mobile application to view information and supplements.



Justification
Through continued use of the system, Health practitioners will be able to increase productivity. Health practitioners can easily save, edit and view important information relevant to providing the customer with excellent care. The patient will have access to a mobile application, which will streamline the process of viewing information and receiving notifications.

Past and current research [systems] in the community area.

1. **back2health**

   Field of Medicine: Practices alternative health in the fields of Chiropractic Care, Lifestyle & Nutrition, Chinese Medicine, Homeopathy and Biokinetics.

   Area: Wierda Park, Centurion **Customer base:** includes all people of every age.

   Services offered: in-person Services are offered only. No supplements or products are sold on the website.

   Technology used:

   - Basic website with information about the practice and contact details.
   - Bookings are done via telephone, email, or a form used on the website to contact the doctor.

2. **HomeopathySA**

   Field of Medicine: Practises Homeopathy **Area:** Wierda Park, Centurion

   Customer base: Customers are adults

   Services offered: Services are offered in person by appointment. Products are sold by the practitioner, but not on the website. The products are explained on the site but sales are made in person or via email/telephone.

   Technology used:

   - Basic website with information about the practice and contact details.
   - Bookings are done via telephone, email, or a form used on the website to contact the doctor.

3. **Dischem Pharmacy/clinic**

   Field of Medicine: Franchise, general health pharmacy. **Area:** Centurion, multiple branches

   Customer base: Customers of all ages

   Services offered: Fully online system, bookings, online products with deliveries.

   Technology used:

   - Enterprise size website, mobile app
   - Large database.
   - Online bookings, online purchases with card merchants
   - Supplements and products sold online

How does the system fit in the community?

Dischem is an enterprise sized company, but they offer more general services. The other alternative health practises identified are not specifically in the Eldoraigne area. Although they are close enough to provide services to Eldoraigne, the technology used by them is not very advanced. There is place for improvement if the best health care is to be provided for the community of Eldoraigne.

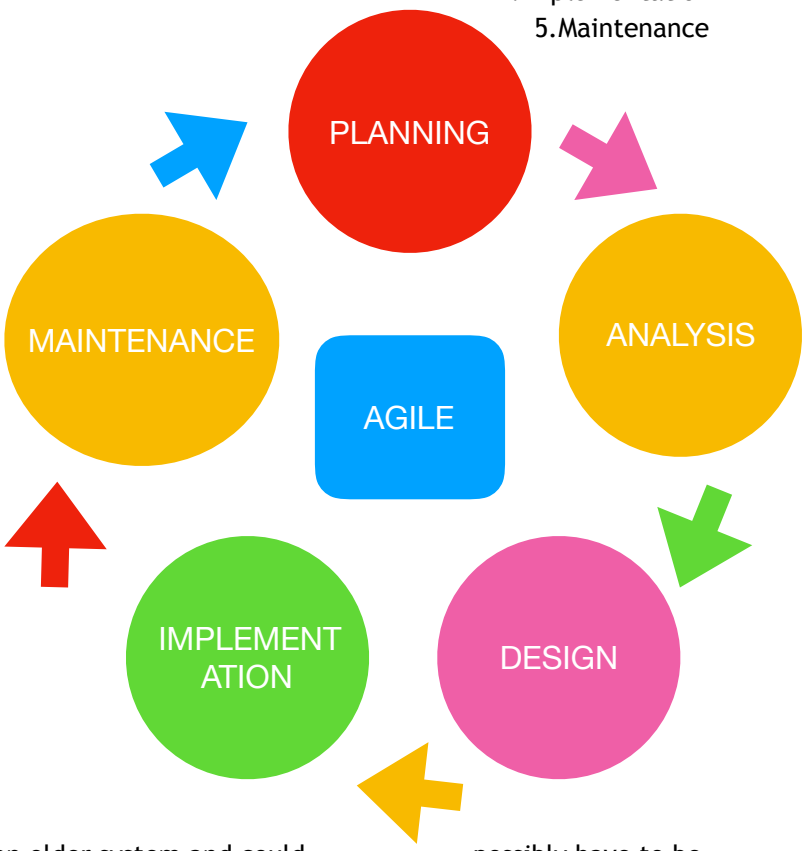
Our system will be better equipped to provide even more information and better service to the customers, with services aimed specifically at alternative health. Using technology like Dischem does, and combining the services of an Alternative Health care clinic, our system will be able to provide the best service to the community.

The aim of the system is to enhance the physical practise. The practise will also be closer to the patients in the area, so travel will become easier if needed.

Development: what approach will be followed for the system?

Because this is a small to medium sized system, and the requirements have been clearly defined, an iterative AGILE approach will be used. The stages of the SDLC (Software Development Life Cycle) will be followed for each component, Namely:

1. Planning
2. Analysis
3. Design
4. Implementation
5. Maintenance



The client currently uses Windows 7, this is an older system and could possibly have to be updated soon. To allow the customer freedom of choice to update to a system of their choice, like windows 10 or even Mac, we have decided to make use of an open source Java platform to make the system usable on any operating system. In doing so we hope to make it easier to expand the system and make future development easier. Using a Java servlet, the system can be duplicated on any operating system with ease, allowing future expansion of the business. We will develop the system using the oracle JavaFX libraries, and use an embedded database like the Derby platform for a local database on the desktop, coupled with an online MySql database which can be synced from an online PhpMyAdmin platform.This means there is an online database and also a desktop version for offline use. This also makes future development of the website easier, enabling us to expand on the existing system quickly. Using Java will also make the system very compatible with the mobile app, which will also be written in Java.

How will the system be tested?

The system will be split into components and each component of the system will be developed and tested individually on its own, in phases, starting with the database. As a component is developed it will be tested rigorously. Once all the components have been developed and tested on their own, the components will then be tested together as a complete system. Each component will be introduced to different inputs to obtain and analyse it's outputs and behaviour to monitor the way it functions. Each component will be tested to meet the project requirements.

What would be the scope for future development for this system?

There are ways that the system can be enhanced in the near future, namely:

1. Payment system - At the moment payment is done by EFT only, and the administration has to manually update the system. This can be enhanced by adding a Payment component to the system that is fully automated, allowing credit card payments, automatic notification and database updates.
2. Mobile App upgrades - the mobile app is developed primarily for the patient, but in the near future it could be updated to include functionality to be used by the HCP. For instance it could be used as a tool by the HCP to record information on the fly during a patient session, it could be used as a medical encyclopaedia providing information easily at hand, or it could record signatures used for authorisations to medical aids or scripts.
3. Customer Usability - the system caters for stock only, therefore the system needs functionality like a web page and online interface to be able to purchase supplements online to expand the business reach further into the community.
4. Biographical information & appointment booking system - to enhance the service to the patients and customers, the system needs added functionality to streamline the information and booking system.This will make it easier to make and cancel bookings, and also easier to manage customer information.

Reference list

… [*make use of the Harvard Referencing Style]

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Dischem.co.za. (2018). Homepage / Dis-Chem - Pharmacists who care. [online] Available at: http://dischem.co.za/ [Accessed 25 Mar. 2018].

Homeopathysa.co.za. (2002). Homeopathy South Africa - homeopathic holistic remedy za, homeopathic treatment, natural healing product, natural holistic healing remedy, alternative healing homeopathy, allopathic medicines, herbal cures.. [online] Available at: http://www.homeopathysa.co.za/ [Accessed 24 Mar. 2018].

Assignment 3

System Proposal

Outcomes
The expected benefit of this system is to assist the community in increasing overall alternative health benefits by simplifying the process of delivering these benefits.
The system is meant to streamline the general administration for Health practitioners, and facilitate access for the patients to better health benefits and information.

Objectives
- All Health practitioners can immediately manage, store and view information about the customers, product information, stock levels and supplements.
- An HCP will immediately be able to view important information at a glance in one interface.
- A customer can immediately view bookings made, view supplement information and receive notifications.
- Health practitioners are immediately able to deliver information and advertising to customers, and deliver invoices to customers for every transaction made.

Outline deliverables
- A software GUI (Graphical User Interface) to access and update the database.
- A supplement interface - Allows the health practitioner to view information about the supplements.
- Add/update (Software component) - An interface allowing the Practitioner to change information about the supplements.
- An MIS interface allowing the HCP to view important information.
- An interface for a health practitioner to create and send an invoice
- Mobile application for patients to interact with the system.

Scope

System scope:

The system will be installed on the business's existing computer, currently using a Windows 7 Operating system.

The **database** requires an interface that will allow an administrator to add data to the database before the system is to be used. Current data must be easily entered so the system and can be used immediately.

The **Stock/Supplements Interface** will allow a practitioner access to general information such as patient name and ID number and birthday, stock levels, and the purchase price and mark up price of the supplement.

An **Add/update Software component will** allow a practitioner to edit stock on the system.

Stock warning levels are received if stock levels are low. Different warning levels exist for different types of stock, as some supplements get ordered more regularly than others.

An **Invoice Component** consists of an interface to create an Invoice for each transaction, once patient has made payment. When an invoice is made, the HCP must have the option to change the cost for a supplement. Each invoice needs to have a unique number. This number is used as reference in payments by the customer.

An **MIS (Management Information System)** acts as a Dashboard interface, providing an overview of the system at any given time, reflecting information such as: The names of the patients for the specific day. The upcoming birthdays for the patients. A list of the supplements that should be ordered (low stock levels). A summary of the number of patients that were seen for the month / year. A summary of the supplements sold during the last month / year. A list of the top 10 supplements sold during the last month / year

A **Mobile Application will** allows the patient to view his/her account, appointments and supplements prescribed. A pop-up message should display on the mobile device 24 hours before the next appointment. The HCP must be able to push notifications of special deals and general health care tips to the patient via the mobile application.

User scope:

A **Super User will** have full access to the database and code of the system, he will only be needed onsite for maintenance or support.

The **HCP will have** access and viewing only through the GUI. He can create invoices and add/update products in the supplement stock. Only the HCP can update the pricing structures for consultation fee, the percentage of mark up that should be used for new supplements and whether discount can be given to a specific patient or customer, and view **MIS** reports.

The **GA** will also have all access and viewing done through the GUI. The GA can make appointments, create invoices and add products to the supplement stocks.

The **patient** will be able to use the mobile application only. Be able View his/her appointments as well as the supplements prescribed. He/she will receive, via the application and system a reminder of the next appointment as well as information on specials and general information; this can be done via a sms or e-mail.

Both the **HCP** and the **GA** can add and update the stock and stock levels. If the stock levels go down beyond a specific level then a warning needs to be created to alert the **HCP** or **GA** that new stock needs to be ordered. There are different warning levels for different supplements. The ID number of the **patient** needs to reflect on the invoice. The **patient** can pay either cash or EFT. At the end of each day the **HCP/GA** verifies the payment and updates the system. The stock levels are updated accordingly.

Approach

Because this is a small to medium sized system, and the system needs to be built quickly by one developer, an iterative AGILE approach will be used. The stages of the SDLC (Software Development Life Cycle) will be followed for each component. This will give the client an idea of each component and the ability to immediately give feedback.

This approach emphasises the rapid delivery of an application in complete functional components. Rather than creating tasks and schedules, all time will be "time-boxed" into phases called "sprints." Each sprint has a defined duration with a running list of deliverables, planned at the start of the sprint. As work is completed, it can be reviewed and evaluated through daily builds and end-of-sprint demos.

Using the open source JavaFX platform will allow us to expand the system easily and also make it available to any operating system the client chooses. An embedded database like the Derby platform will allow easy integration for the desktop app, coupled with an online MySql database to sync data to and from the cloud will allow easy expansion of the system as the system grows.

Exclusions

- The system currently will not cater for customers, only a patient will be able to use the mobile app to gain access to the system.
- No public website is yet available for patients and customers, only Health Practitioners have access to the GUI. Customers will not be able to order supplements online.
- The system will not cater for appointment bookings and biographical capturing. Only basic information, relevant to invoicing, will be available to Healthcare Practitioners on the system.

Constraints

- The database will have to be manually updated, it is possible that this could be subject to human error.
- Supplement information needs to be updated manually by an administrator, therefore making it vulnerable to human error.
- The Operating system hardware and software, and Database management system (DBMS) are subject to updates or hardware failure. This could impact service delivery of the system.
- Users need to be trained how to handle system, to avoid problems that cause downtime, and to decrease human error while running the system.
- Slow Internet speeds or downtime could affect notifications from the system to the mobile app.

Outline business case

Needs: As of a 2011 census, the suburb of Eldoraigne and its neighbouring communities cover a geographic area of around 5km^2, carrying a Population of 3647 (1775.86 per km^2) and 1331 Households (648.11 per km^2). Two other holistic practises and various pharmacies have been identified nearby. It is clear that the community can benefit from excellent healthcare in the immediate area. As the owner wishes to expand the current business by gaining an online presence and saving money, this system is the first step to digitising the current workflow and paving the way forward to a full online presence. Overall, the project offers the following **benefits**:

- Ability to monitor stock performance and react quickly to sales trends.
- Quick, easy access to information for planning and evaluation.
- Improvement in day-to-day internal communication.
- Low cost system maintenance. Improved management of assets, and Standardised processes and procedures

Users - Currently there are few users for this system. Consisting of two daily users (HCP&GA), and a super user to be called in only for support.
Patients will only have access to the mobile app. There is currently 445 registered patients on the system, and the number of patients is expected to grow as the business expands.
Income generation - The system will improve support and this means improved savings for the same amount of work. Carry cost of inventory is reduced through improved inventory management. An online system improves waste reduction through eliminating paper-based system. Resource savings are achieved through reduced duplication of processes and automation of tasks. Increased sales are achieved through improved service throughput. Accuracy of inventory counts increases sales.
Funding sources - Funding will be requested from the current owner.
Marketing - The business is situated in a small demographic area of about 5km^2, carrying a Population of 3647 (1775.86 per km^2). The target market in this population consists of men and women and families of various age groups. These people need health care all year round for various reasons ranging from being sick, to just wanting to be healthy. Reaching even a small percentage of this population will vastly improve the business.
Budget - As an open source system is to be used, the total project costs are estimated to be low for development and implementation. Thereafter, recurring annual costs will also be low. The initial costs include system design and development and system training for the staff. We will take advantage of the business's existing process flows, so that the system aids the business with little disruption during the change-over. The system will take over existing workflows so that business can continue as usual, with many advantages at no additional cost.

Reasons for selecting this solution for the system
The typical costs for a software system can be quite high, and to meet the needs of the client of saving money for an initial system, an open source option has been chosen.
Once this system is in place there is room to easily grow the system and the business.

Outline project plan

Deliverable/Milestone/Sprint	Deadline
Submit Initial proposal	16 April 2018
Design and develop database and database interface	21 May 2018
Design and develop MIS Dashboard (Management Information System)	25 June 2018
Develop Supplement and Invoice Control System	27 August 2018
Complete user manual and installation manual	01 October 2018
Develop Mobile app	01 October 2018
Implement System	22 Ocober 2018

Resources

A developer will build the system for a computer running on a Windows 7 operating system, and this will be installed on the business's existing computer. The business owner provides the hardware and Operating system for the system to run on. The business owner will also supply an internet connection and own hosting provider for the system to be connected to the internet. Software will be written for the client, and an open source database will be used so there will be no need for specific licenses or extra expenses on software.

Quality expectations

When the project is completed we expect to have achieved the following performance targets:

Service measures:

- Response to supplement sales: acknowledge, record, and assign action on the same day as the sale.
- Response to request for standard information: sent electronically the same day or by mail the next day
- Staff access to system and information: fully electronic, on demand.

Mission measures:

- Monthly / Yearly analysis of trends in local management issues, activities and results.

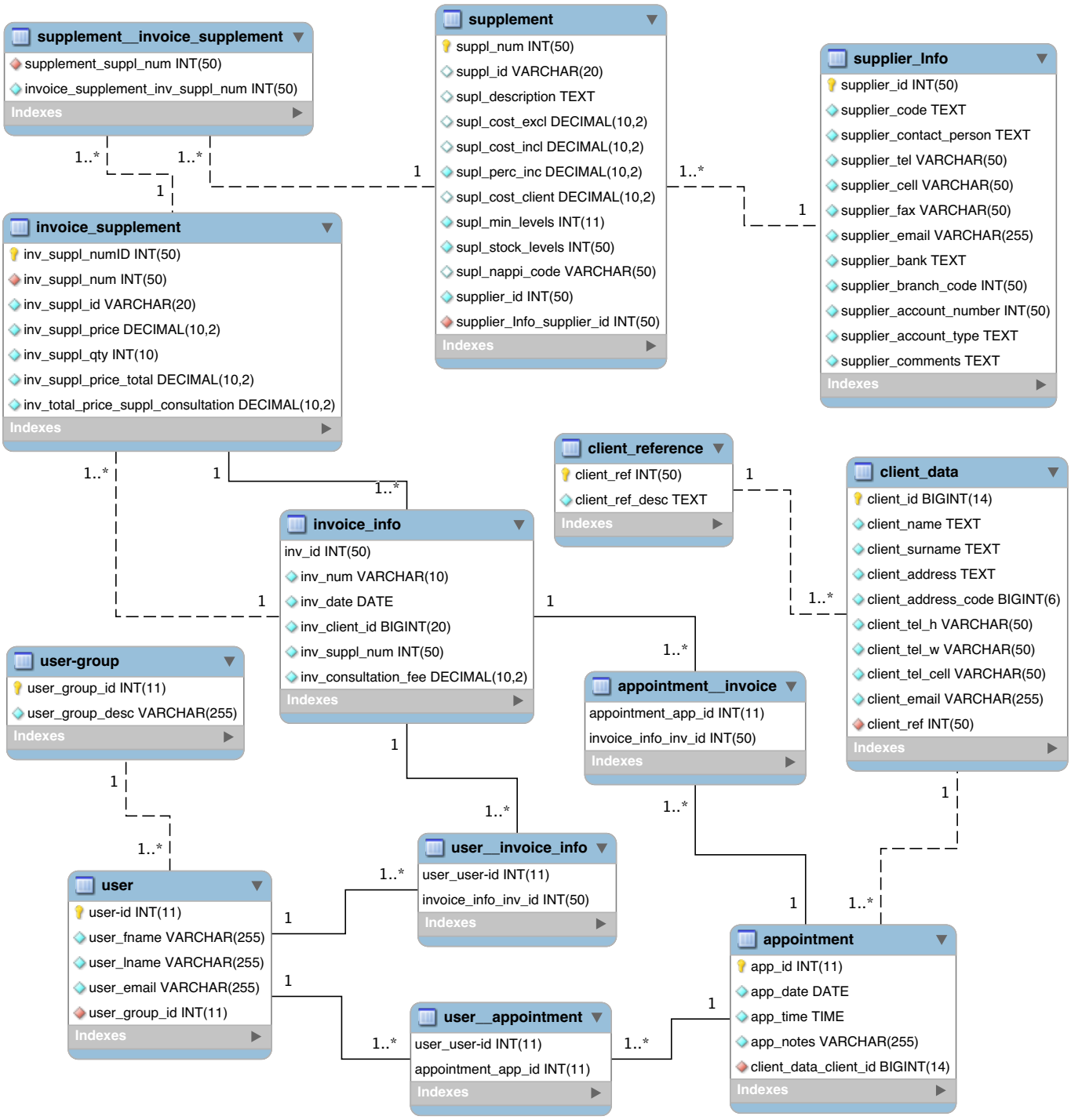
Risk assessment

- The solution purchased is inadequate - If the Health Practitioners do not adjust to the new system right away, it could effect service delivery. To counter this problem, the client will be involved in every phase of development to ensure compatibility to the business need.
- Staff resistance to change - Most people do not react well to change, and learning a new system is always challenging. In order to reduce the effort of having to learn entirely new workflows, the proposed system is based on the current business processes. This will improve the transition from paper-based workflows to the new online system.
- Prolonged disruption to business operations - internet hosting outages in the area could cause the system to go offline for prolonged periods of time. An offline version will be available to counter the effects of downtime and ensure business delivery.

Assignment 4

Database

ERD

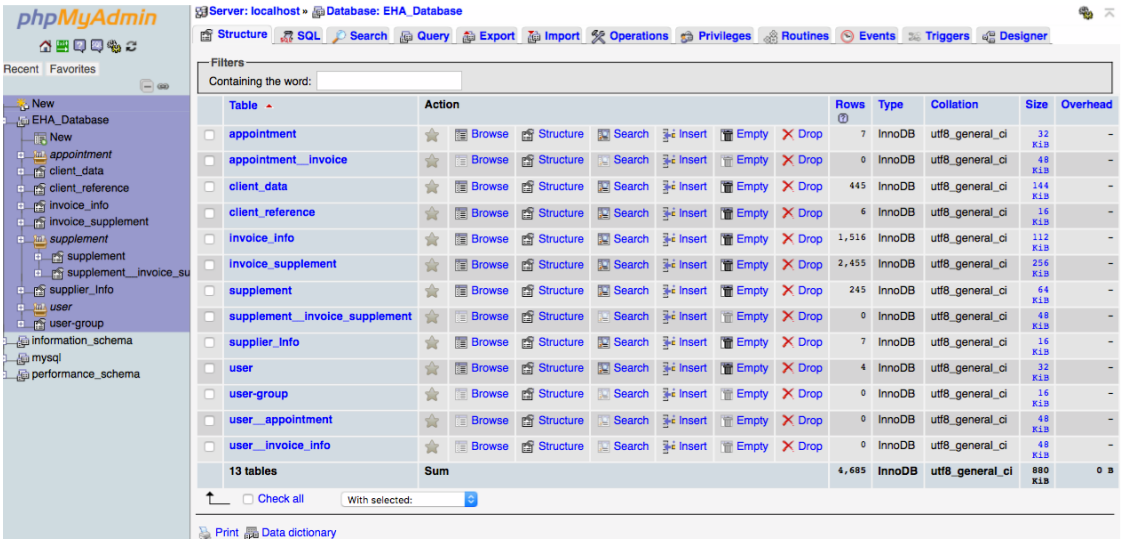


Development | Database

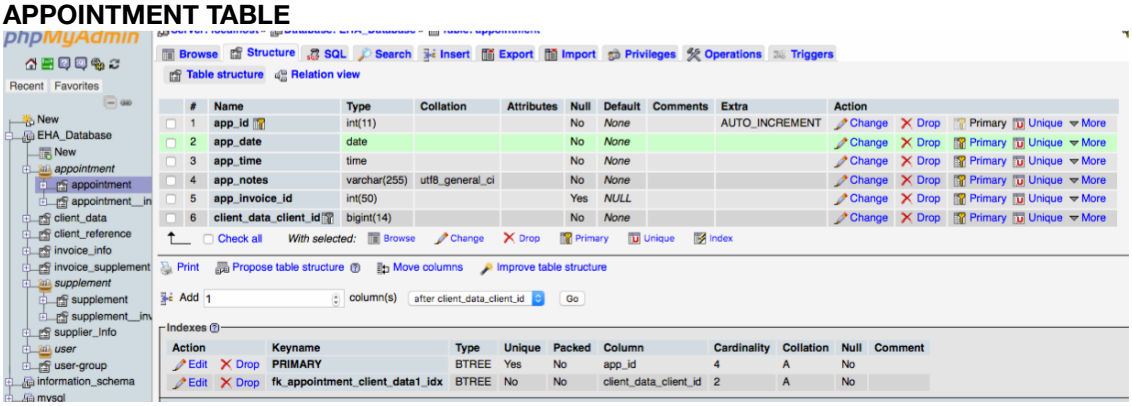
```
CREATE TABLE `appointment` (
  `app_id` int(11) NOT NULL,
  `app_date` date NOT NULL,
  `app_time` time NOT NULL,
  `app_notes` varchar(255) NOT NULL,
  `client_data_client_id` bigint(14) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

CREATE TABLE `appointment__invoice` (
  `appointment_app_id` int(11) NOT NULL,
  `invoice_info_inv_id` int(50) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

CREATE TABLE `client_data` (
  `client_id` bigint(14) NOT NULL,
  `client_name` text NOT NULL,
  `client_surname` text NOT NULL,
  `client_address` text NOT NULL,
  `client_address_code` bigint(6) NOT NULL,
  `client_tel_h` varchar(50) NOT NULL,
  `client_tel_w` varchar(50) NOT NULL,
  `client_tel_cell` varchar(50) NOT NULL,
  `client_email` varchar(255) NOT NULL,
  `client_ref` int(50) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

CREATE TABLE `client_reference` (
  `client_ref` int(50) NOT NULL,
  `client_ref_desc` text NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

CREATE TABLE `invoice_info` (
  `inv_id` int(50) NOT NULL,
  `inv_num` varchar(10) NOT NULL,
  `inv_date` date NOT NULL,
  `inv_client_id` bigint(20) NOT NULL,
  `inv_suppl_num` int(50) NOT NULL,
  `inv_consultation_fee` decimal(10,2) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

CREATE TABLE `supplement__invoice_supplement` (
  `supplement_suppl_num` int(50) NOT NULL,
  `invoice_supplement_inv_suppl_num` int(50) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

CREATE TABLE `user` (
  `user-id` int(11) NOT NULL,
  `user_fname` varchar(255) NOT NULL,
  `user_lname` varchar(255) NOT NULL,
  `user_email` varchar(255) NOT NULL,
  `user_group_id` int(11) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

CREATE TABLE `invoice_supplement` (
  `inv_suppl_numID` int(50) NOT NULL,
  `inv_suppl_num` int(50) NOT NULL,
  `inv_suppl_id` varchar(20) NOT NULL,
  `inv_suppl_price` decimal(10,2) NOT NULL,
  `inv_suppl_qty` int(10) NOT NULL,
  `inv_suppl_price_total` decimal(10,2) NOT NULL,
  `inv_total_price_suppl_consultation` decimal(10,2) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

CREATE TABLE `user__invoice_info` (
  `user_user-id` int(11) NOT NULL,
  `invoice_info_inv_id` int(50) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

CREATE TABLE `supplement` (
  `suppl_num` int(50) NOT NULL,
  `suppl_id` varchar(20) DEFAULT NULL,
  `supl_description` text,
  `supl_cost_excl` decimal(10,2) DEFAULT NULL,
  `supl_cost_incl` decimal(10,2) DEFAULT NULL,
  `supl_perc_inc` decimal(10,2) NOT NULL,
  `supl_cost_client` decimal(10,2) DEFAULT NULL,
  `supl_min_levels` int(11) NOT NULL,
  `supl_stock_levels` int(50) NOT NULL,
  `supl_nappi_code` varchar(50) DEFAULT NULL,
  `supplier_id` int(50) NOT NULL,
  `supplier_Info_supplier_id` int(50) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

CREATE TABLE `supplier_Info` (
  `supplier_id` int(50) NOT NULL,
  `supplier_code` text NOT NULL,
  `supplier_contact_person` text NOT NULL,
  `supplier_tel` varchar(50) NOT NULL,
  `supplier_cell` varchar(50) NOT NULL,
  `supplier_fax` varchar(50) NOT NULL,
  `supplier_email` varchar(255) NOT NULL,
  `supplier_bank` text NOT NULL,
  `supplier_branch_code` int(50) NOT NULL,
  `supplier_account_number` int(50) NOT NULL,
  `supplier_account_type` text NOT NULL,
  `supplier_comments` text NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

CREATE TABLE `user__appointment` (
  `user_user-id` int(11) NOT NULL,
  `appointment_app_id` int(11) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

CREATE TABLE `user-group` (
  `user_group_id` int(11) NOT NULL,
  `user_group_desc` varchar(255) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8;
```

Screen shots of the database

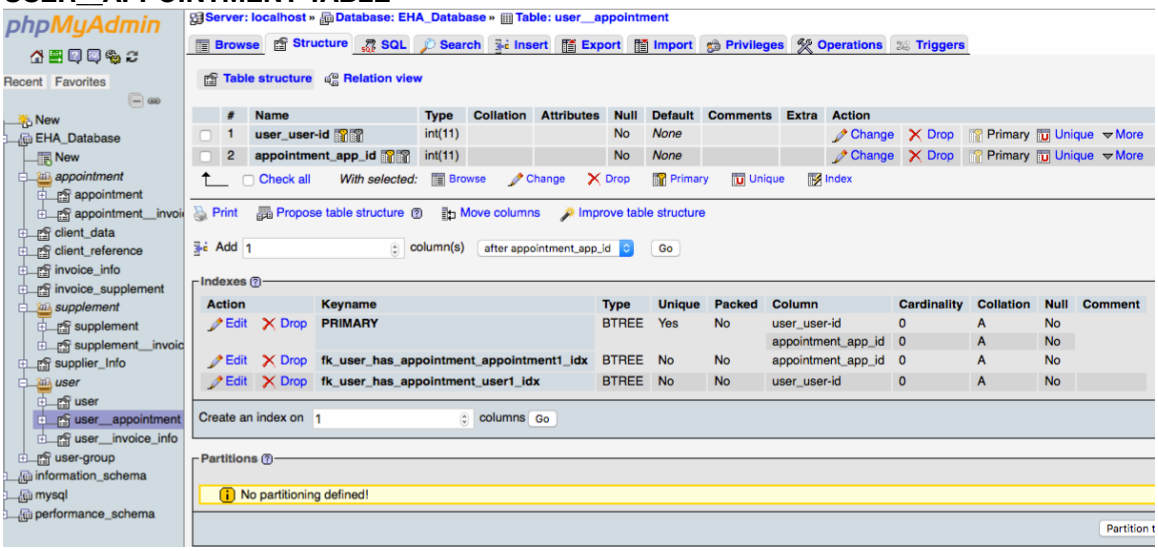
OVERALL DATABASE



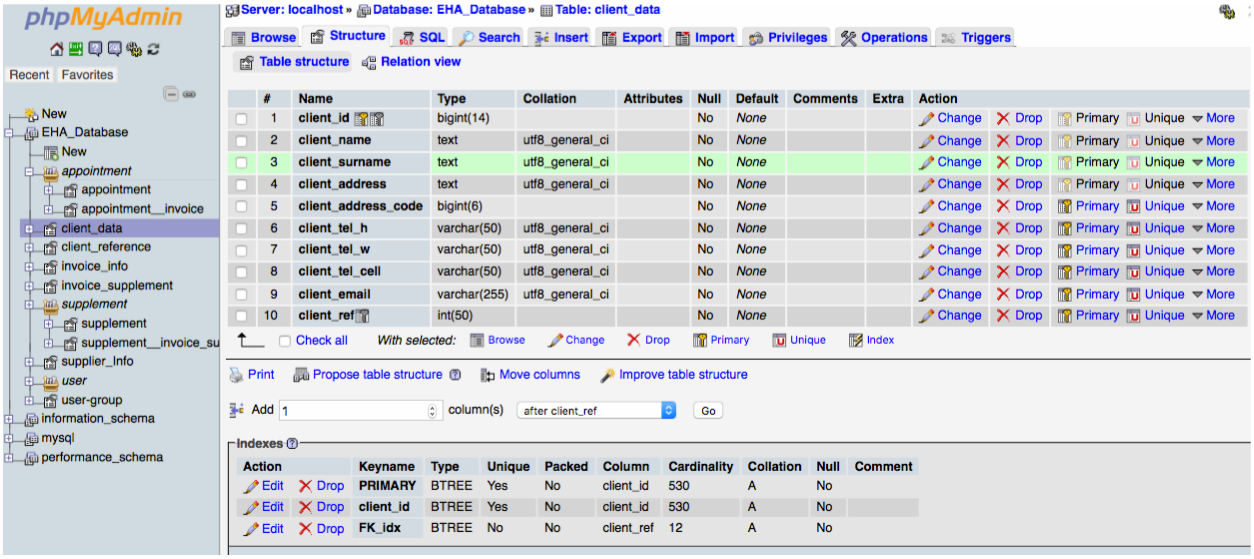
APPOINTMENT TABLE

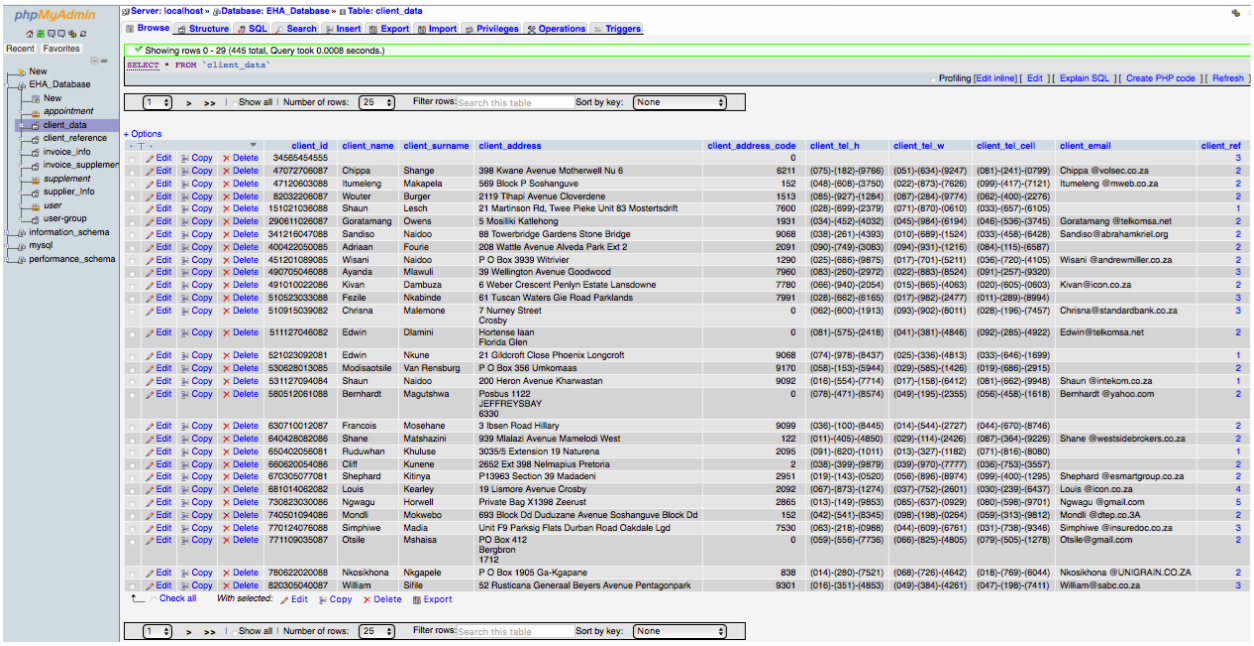


USER__APPOINTMENT TABLE

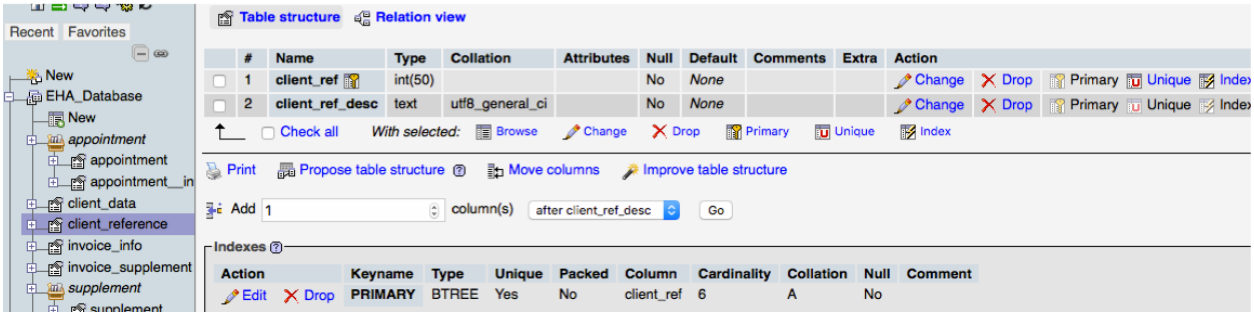


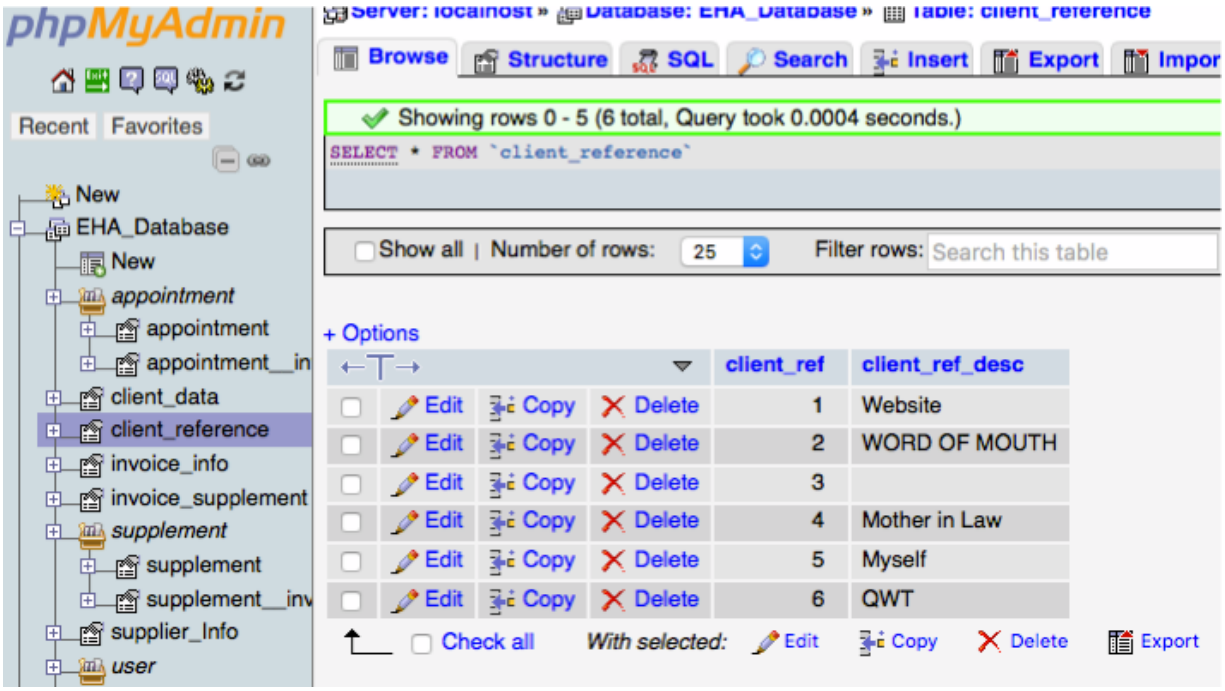
CLIENT DATA TABLE



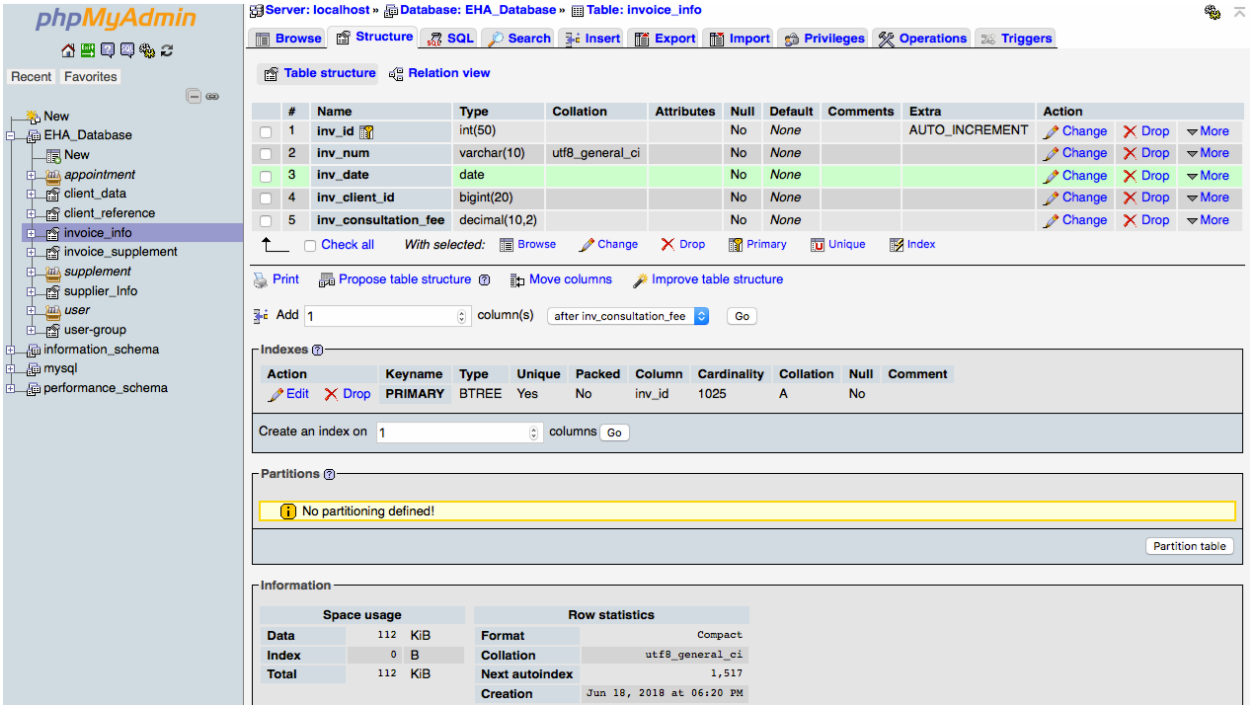


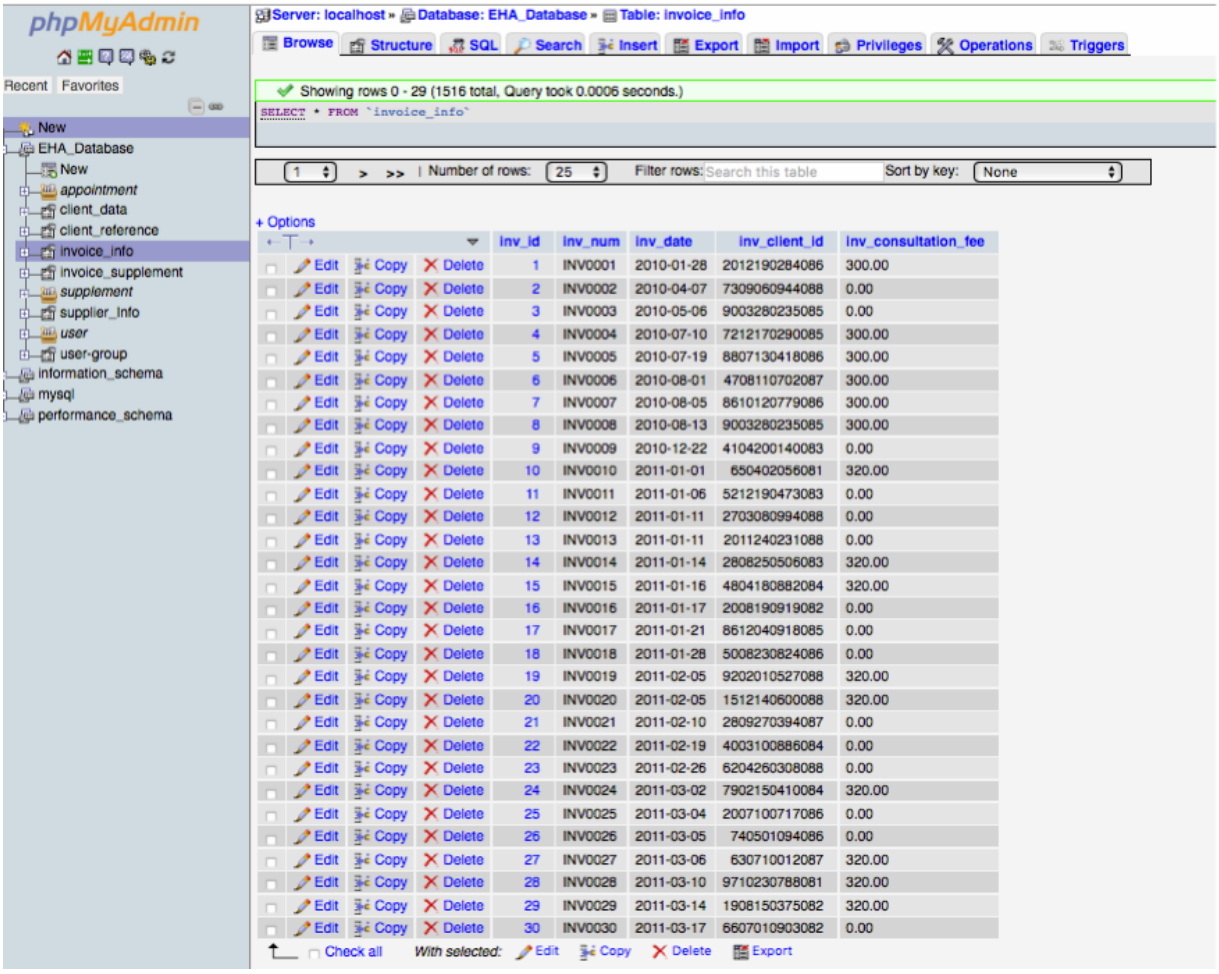
CLIENT REFERENCE TABLE



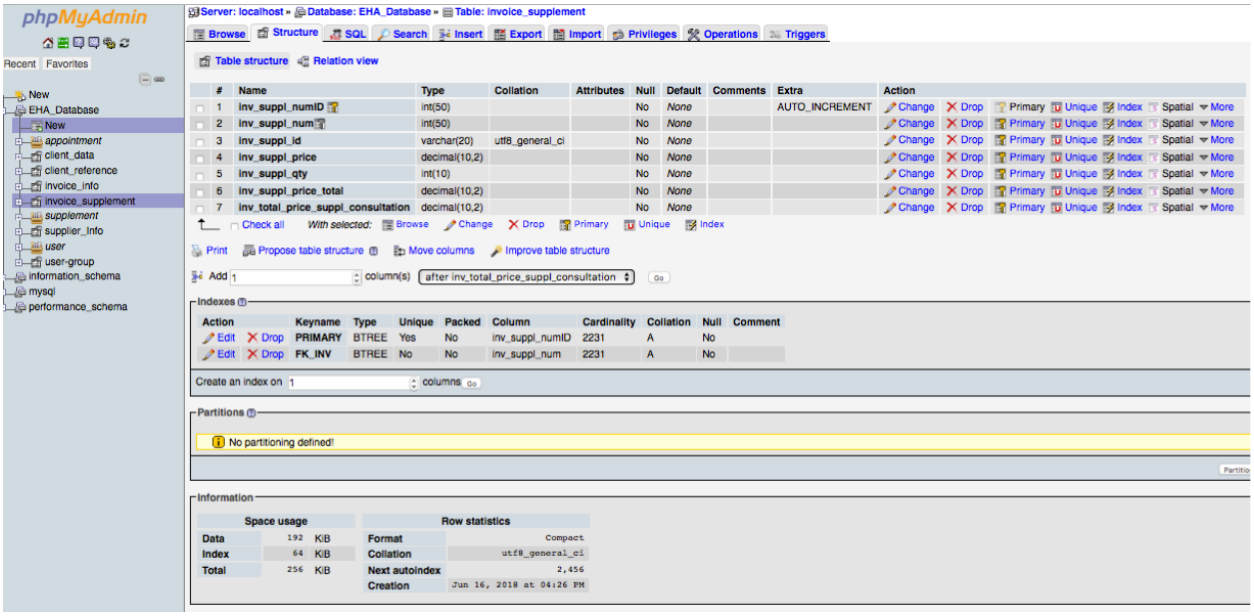


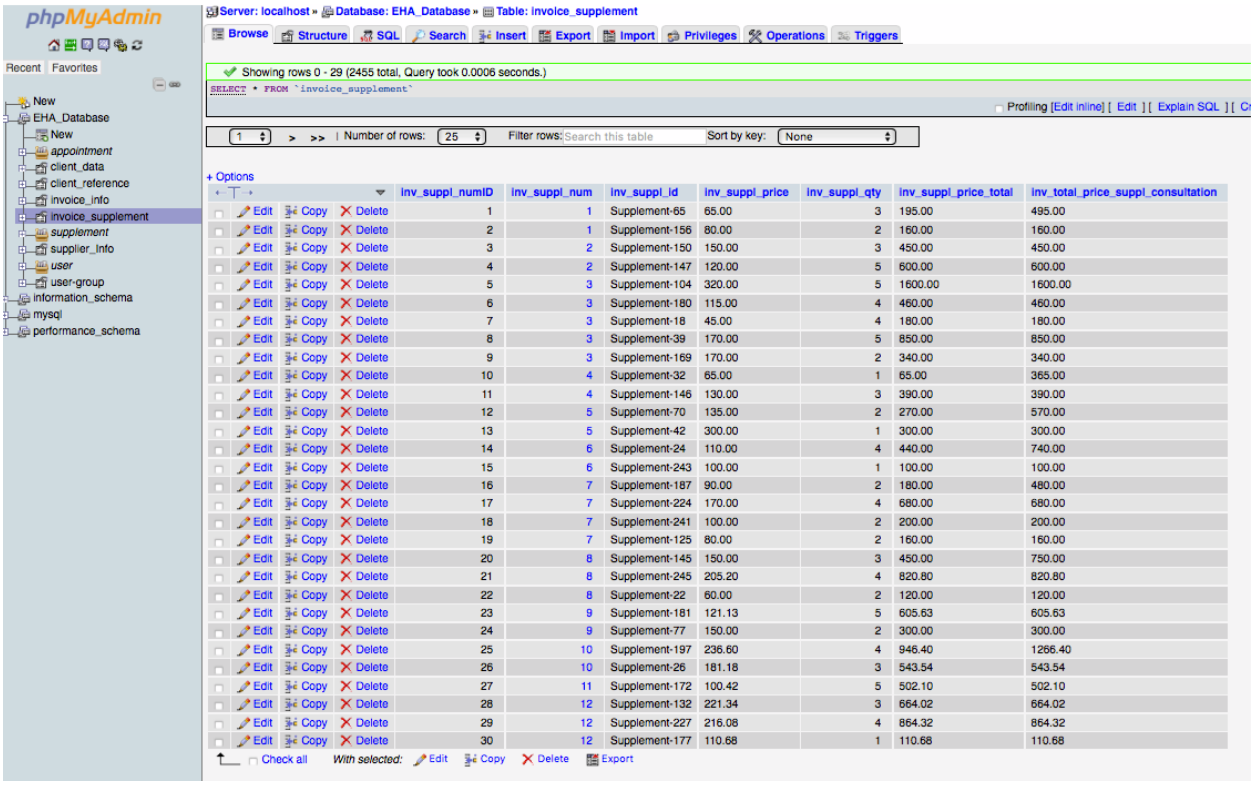
INVOICE INFO TABLE



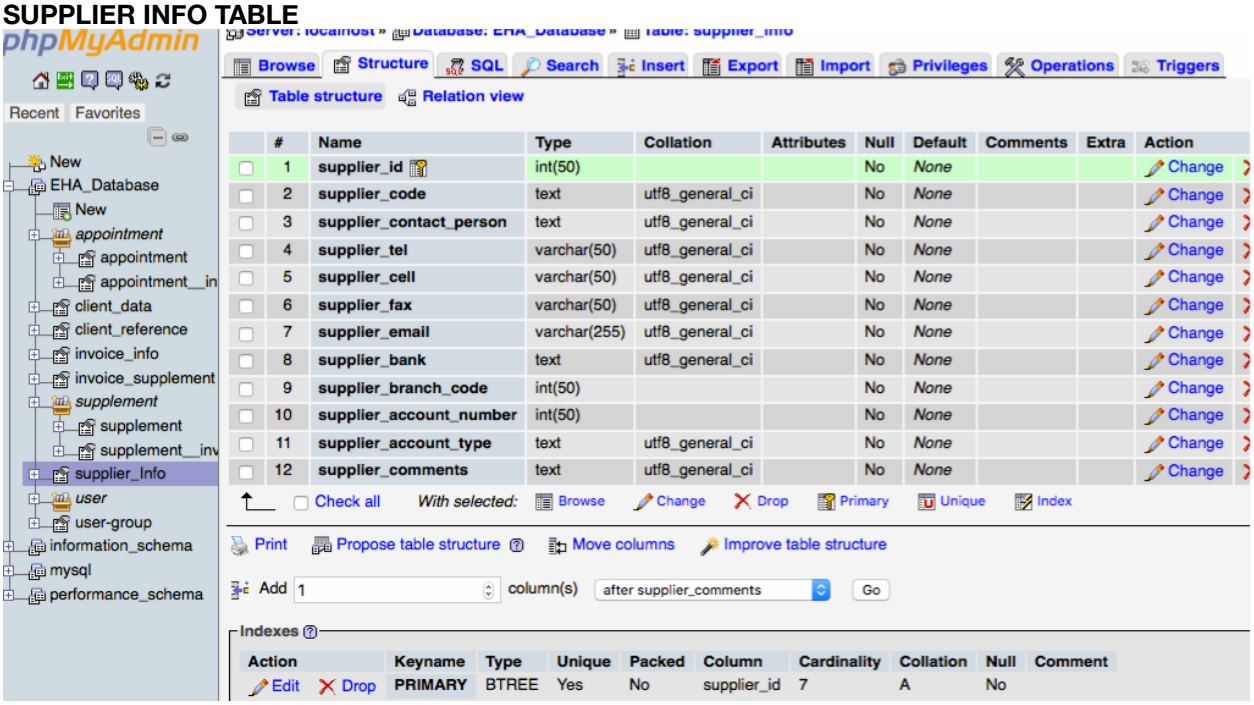


INVOICE SUPPLEMENT TABLE

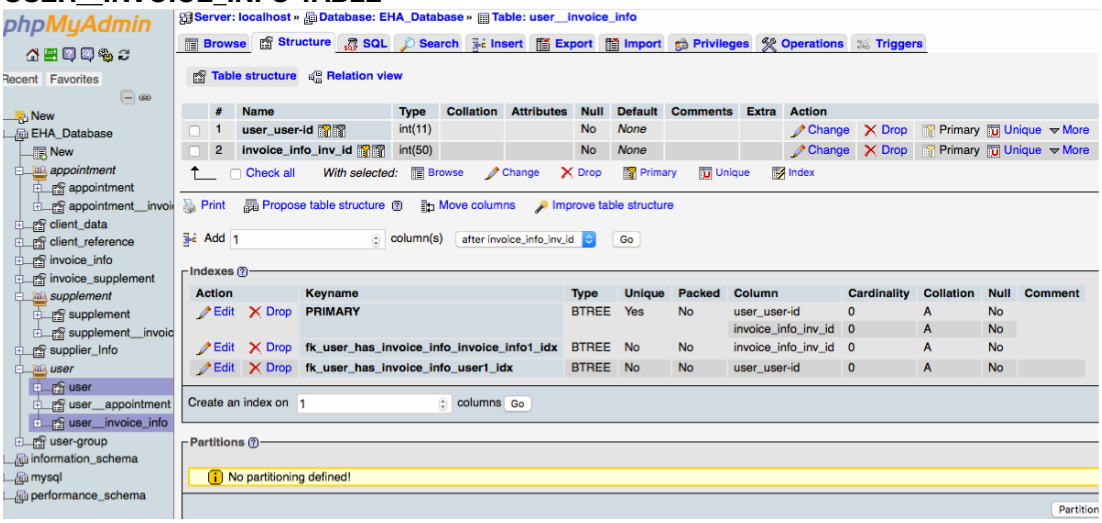




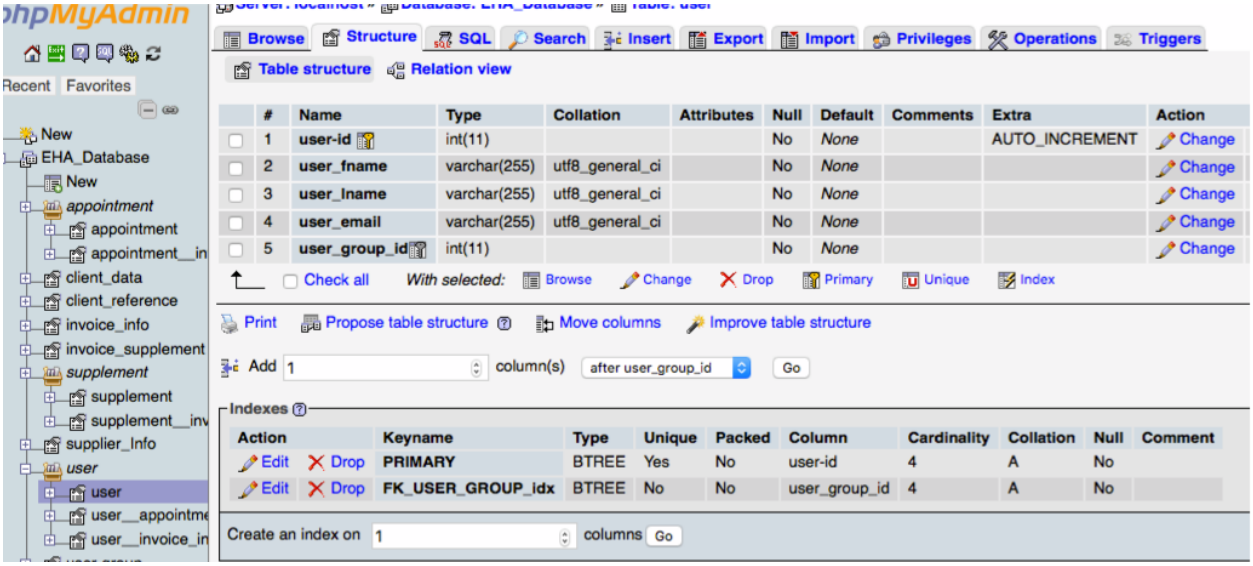
SUPPLIER INFO TABLE

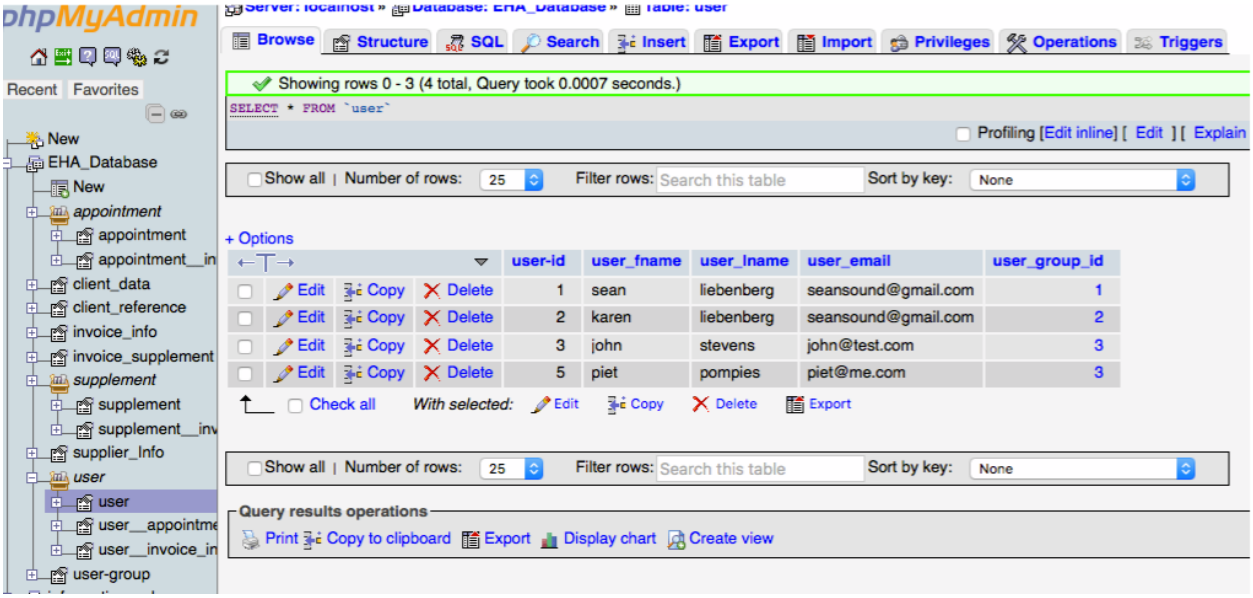


USER__INVOICE_INFO TABLE

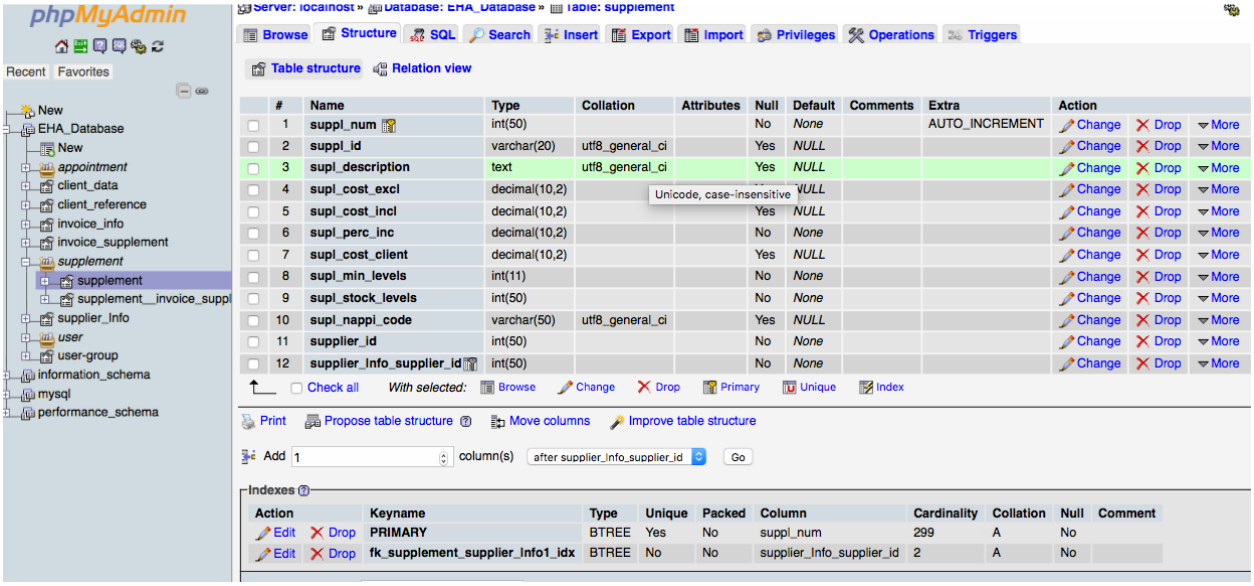


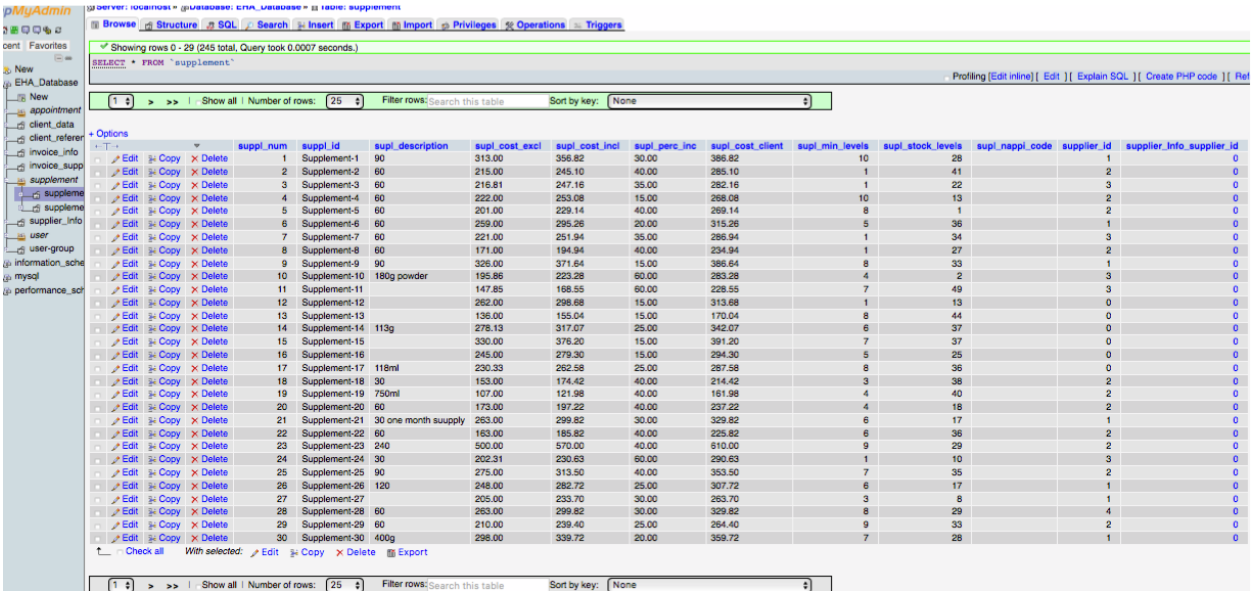
USER TABLE


phpMyAdmin
Recent Favorites
New
EHA_Database
New
appointment
appointment
appointment__in
client_data
client_reference
invoice_info
invoice_supplement
supplement
supplement
supplement__inv
supplier_Info
user
user
user__appointme
user__invoice_in
Browse Structure SQL Search Insert Export Import Privileges Operations Triggers
Table structure Relation view
Name Type Collation Attributes Null Default Comments Extra Action
1 user-id int(11) No None AUTO_INCREMENT Change
2 user_fname varchar(255) utf8_general_ci No None Change
3 user_lname varchar(255) utf8_general_ci No None Change
4 user_email varchar(255) utf8_general_ci No None Change
5 user_group_id int(11) No None Change
Check all With selected: Browse Change Drop Primary Unique Index
Print Propose table structure Move columns Improve table structure
Add 1 column(s) after user_group_id Go
Indexes
Action Keyname Type Unique Packed Column Cardinality Collation Null Comment
Edit Drop PRIMARY BTREE Yes No user-id 4 A No
Edit Drop FK_USER_GROUP_idx BTREE No No user_group_id 4 A No
Create an index on 1 columns Go

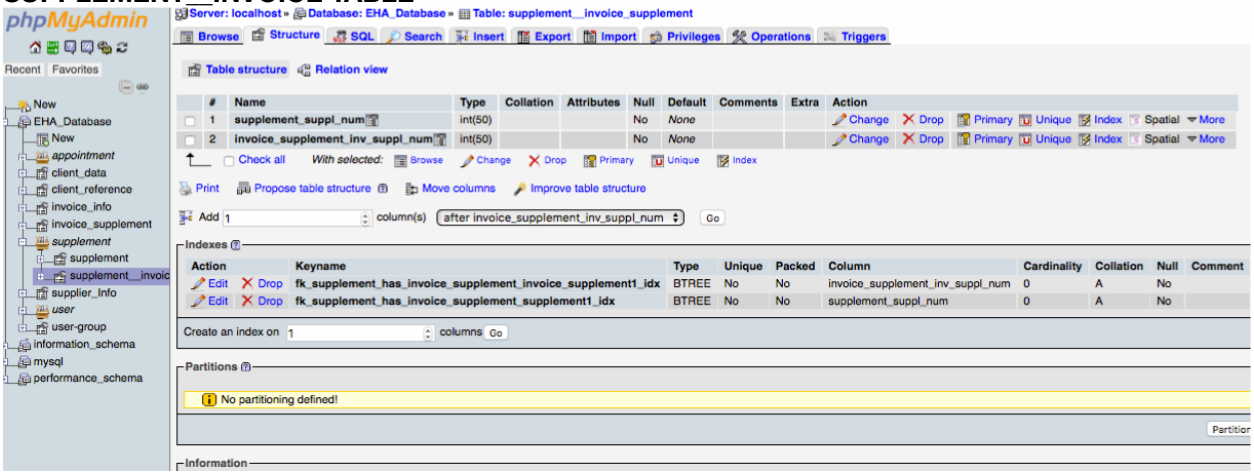

phpMyAdmin
Recent Favorites
New
EHA_Database
New
appointment
appointment
appointment__in
client_data
client_reference
invoice_info
invoice_supplement
supplement
supplement
supplement__inv
supplier_Info
user
user
user__appointme
user__invoice_in
user-group
Browse Structure SQL Search Insert Export Import Privileges Operations Triggers
Showing rows 0 - 3 (4 total, Query took 0.0007 seconds.)
SELECT * FROM `user`
Profiling [Edit inline] [Edit] [Explain
Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None
+ Options
user-id user_fname user_lname user_email user_group_id
Edit Copy Delete 1 sean liebenberg seansound@gmail.com 1
Edit Copy Delete 2 karen liebenberg seansound@gmail.com 2
Edit Copy Delete 3 john stevens john@test.com 3
Edit Copy Delete 5 piet pompies piet@me.com 3
Check all With selected: Edit Copy Delete Export
Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None
Query results operations
Print Copy to clipboard Export Display chart Create view

SUPPLEMENT TABLE

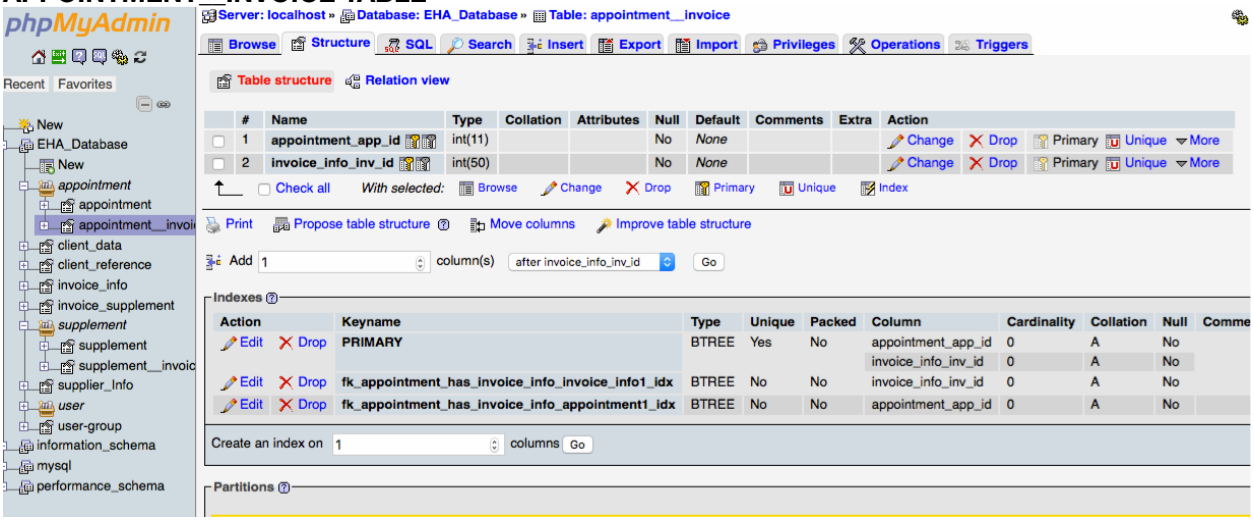




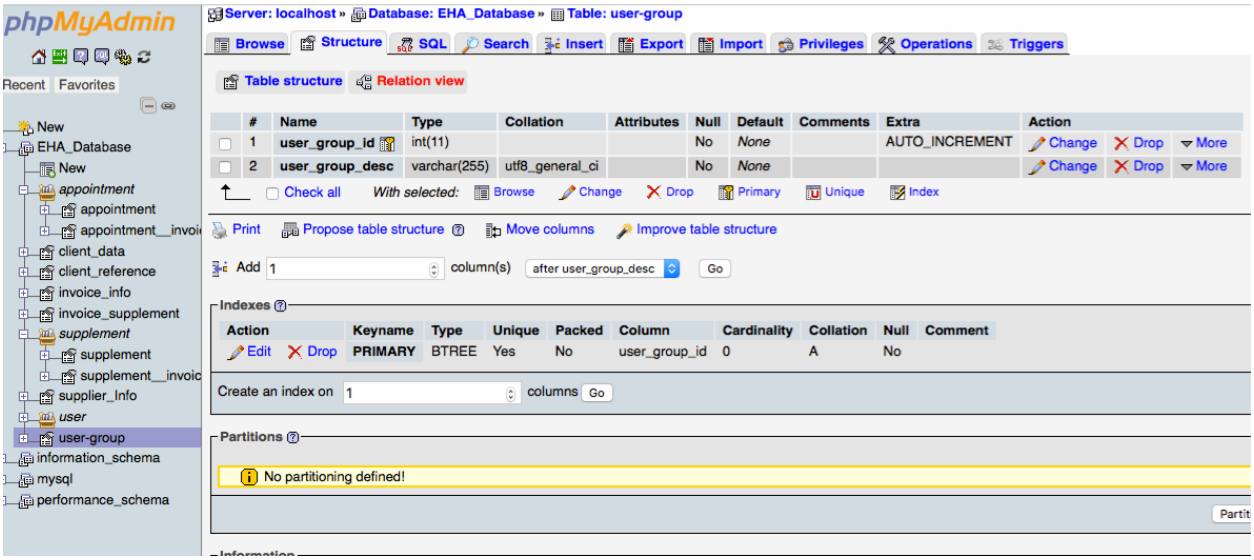
SUPPLEMENT__INVOICE TABLE



APPOINTMENT__INVOICE TABLE



USER_GROUP TABLE



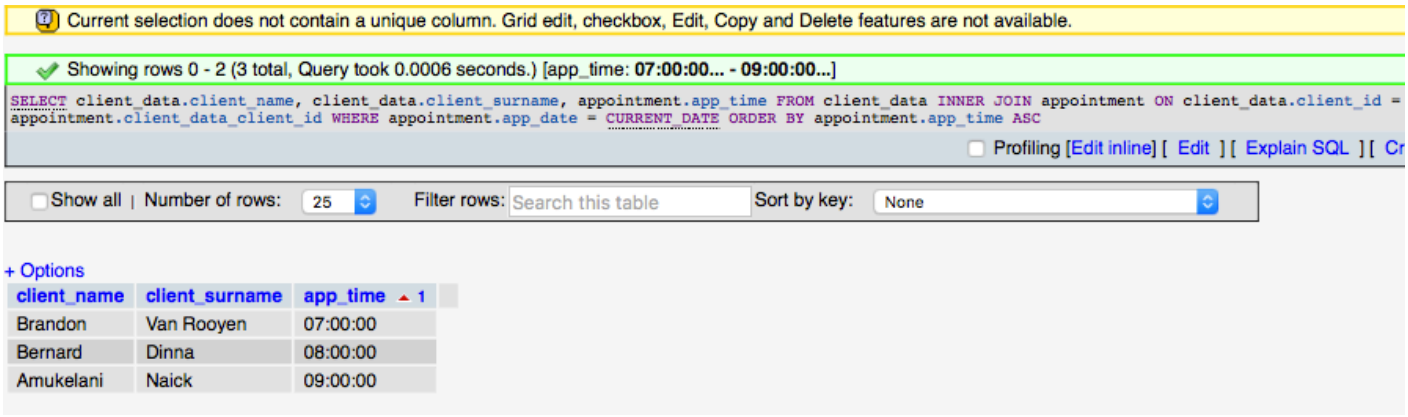
Assignment 5

MIS Reporting

Query writing

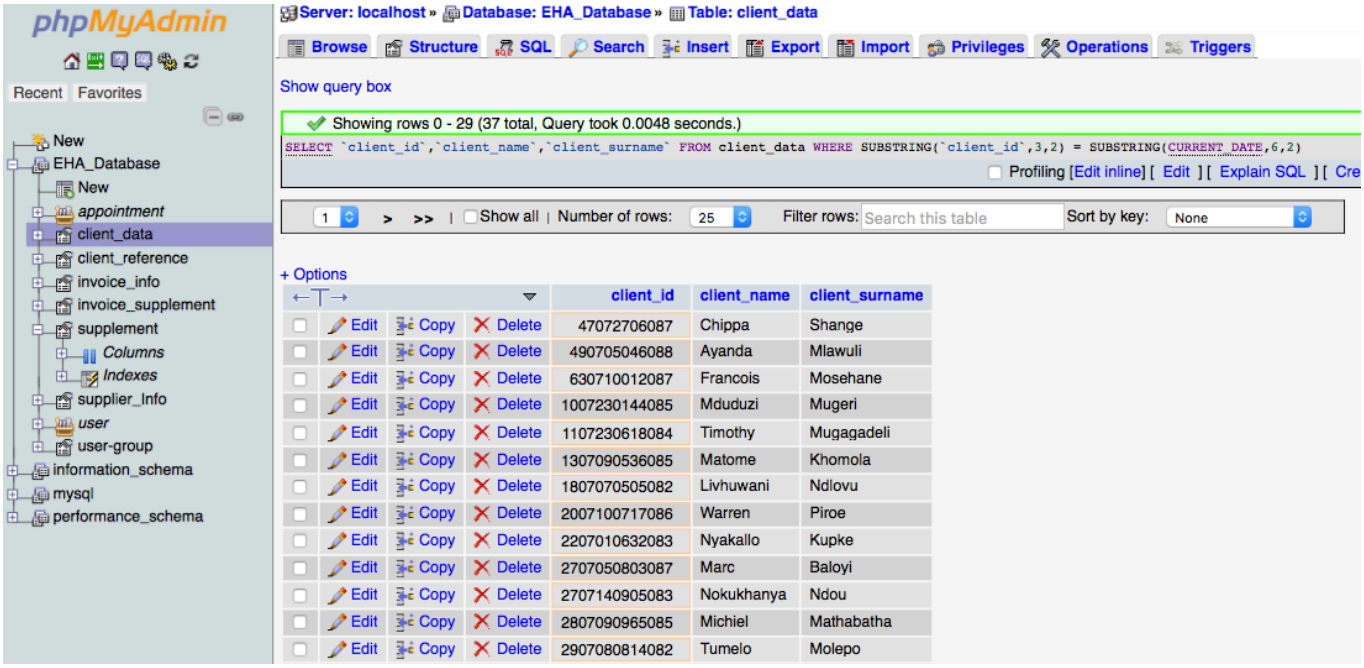
Names of Patients to be seen today

```
SELECT client_data.client_name, client_data.client_surname, appointment.app_time
FROM client_data
INNER JOIN appointment
ON client_data.client_id = appointment.client_data_client_id
WHERE appointment.app_date = CURRENT_DATE
ORDER BY appointment.app_time ASC;
```



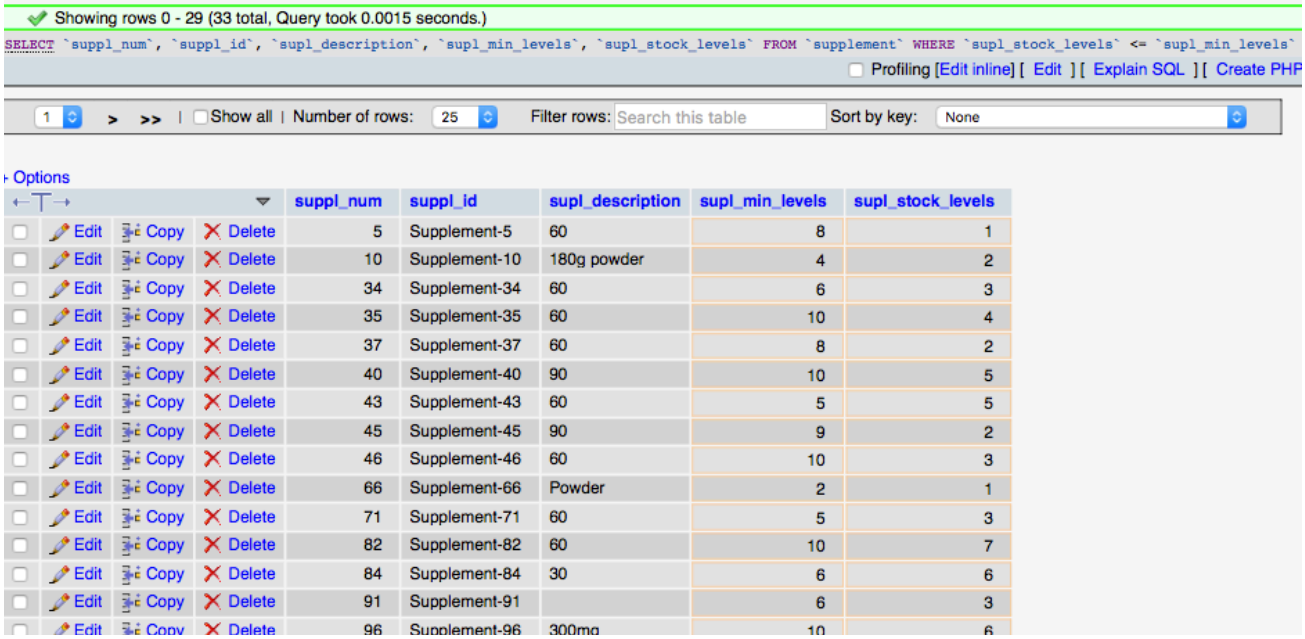
The upcoming birthdays for the patients this month

```
SELECT `client_id`,`client_name`,`client_surname` FROM client_data WHERE SUBSTRING(`client_id`,
3,2) = SUBSTRING(CURRENT_DATE,6,2);
```



Low Stock Levels:

```
SELECT `suppl_num`, `suppl_id`, `supl_description`, `supl_min_levels`, `supl_stock_levels`
FROM `supplement` WHERE `supl_stock_levels` <= `supl_min_levels`;
```



Showing rows 0 - 29 (33 total, Query took 0.0015 seconds.)

```
SELECT `suppl_num`, `suppl_id`, `supl_description`, `supl_min_levels`, `supl_stock_levels` FROM `supplement` WHERE `supl_stock_levels` <= `supl_min_levels`
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP

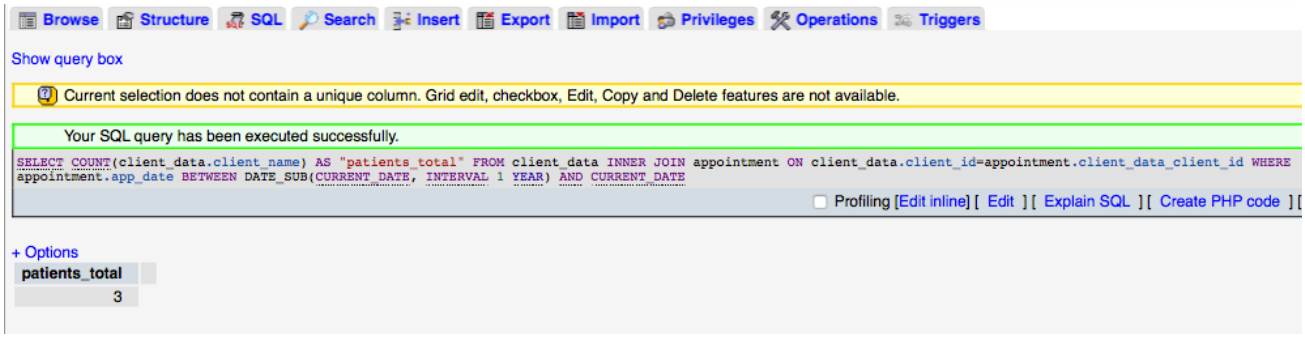
1 > >> | Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None

+ Options

	suppl_num	suppl_id	supl_description	supl_min_levels	supl_stock_levels
Edit Copy Delete	5	Supplement-5	60	8	1
Edit Copy Delete	10	Supplement-10	180g powder	4	2
Edit Copy Delete	34	Supplement-34	60	6	3
Edit Copy Delete	35	Supplement-35	60	10	4
Edit Copy Delete	37	Supplement-37	60	8	2
Edit Copy Delete	40	Supplement-40	90	10	5
Edit Copy Delete	43	Supplement-43	60	5	5
Edit Copy Delete	45	Supplement-45	90	9	2
Edit Copy Delete	46	Supplement-46	60	10	3
Edit Copy Delete	66	Supplement-66	Powder	2	1
Edit Copy Delete	71	Supplement-71	60	5	3
Edit Copy Delete	82	Supplement-82	60	10	7
Edit Copy Delete	84	Supplement-84	30	6	6
Edit Copy Delete	91	Supplement-91		6	3
Edit Copy Delete	96	Supplement-96	300mg	10	6

Number of patients that were seen for the last year:

```
SELECT COUNT(client_data.client_name) AS "patients_total"
FROM client_data
INNER JOIN appointment
ON client_data.client_id=appointment.client_data_client_id
WHERE appointment.app_date BETWEEN DATE_SUB(CURRENT_DATE, INTERVAL 1 YEAR) AND
CURRENT_DATE;
```



Browse Structure SQL Search Insert Export Import Privileges Operations Triggers

Show query box

Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available.

Your SQL query has been executed successfully.

```
SELECT COUNT(client_data.client_name) AS "patients_total" FROM client_data INNER JOIN appointment ON client_data.client_id=appointment.client_data_client_id WHERE
appointment.app_date BETWEEN DATE_SUB(CURRENT_DATE, INTERVAL 1 YEAR) AND CURRENT_DATE
```

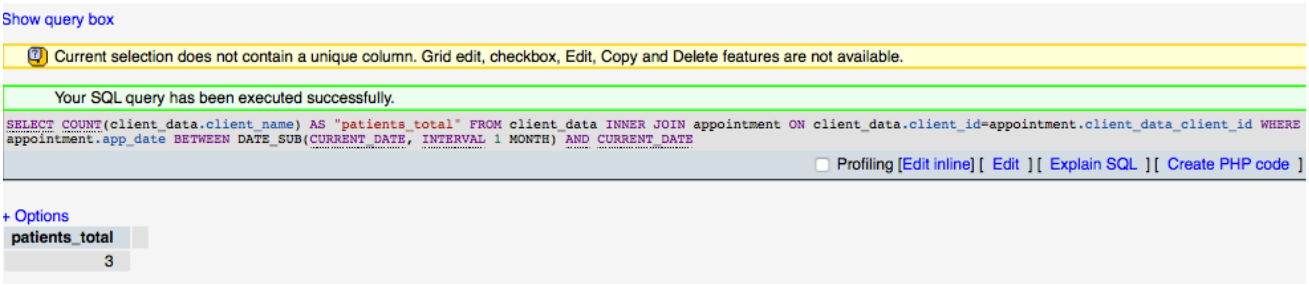
Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code]

+ Options

patients_total
3

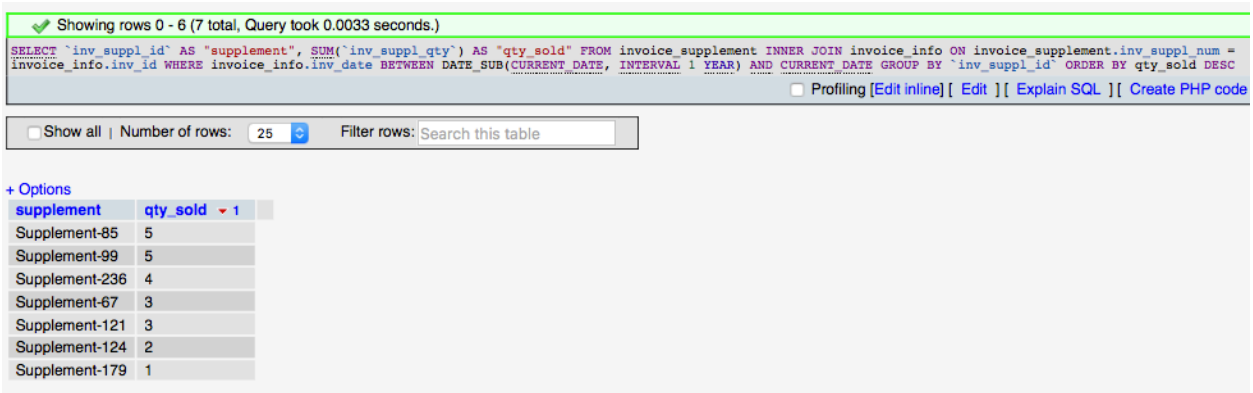
Number of patients seen in last month

```
SELECT COUNT(client_data.client_name) AS "patients_total"
FROM client_data
INNER JOIN appointment
ON client_data.client_id=appointment.client_data_client_id
WHERE appointment.app_date BETWEEN DATE_SUB(CURRENT_DATE, INTERVAL 1 MONTH) AND
CURRENT_DATE;
```



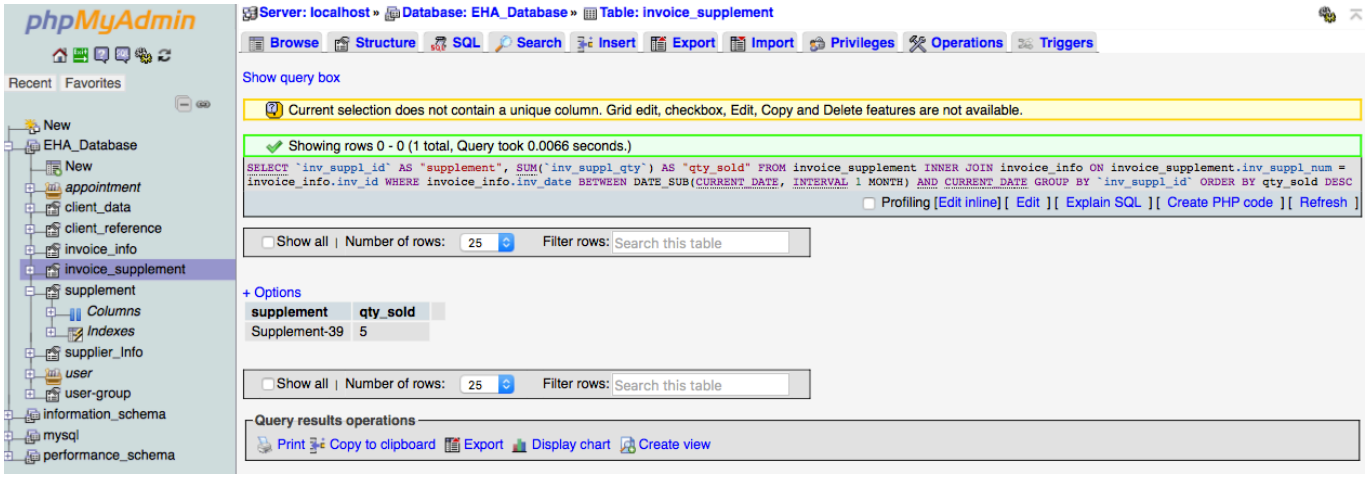
Supplements sold during the last year:

```
SELECT `inv_suppl_id` AS "supplement", SUM(`inv_suppl_qty`) AS "qty_sold"
FROM invoice_supplement
INNER JOIN invoice_info
ON invoice_supplement.inv_suppl_num = invoice_info.inv_id
WHERE invoice_info.inv_date BETWEEN DATE_SUB(CURRENT_DATE, INTERVAL 1 YEAR) AND
CURRENT_DATE
GROUP BY `inv_suppl_id` ORDER BY qty_sold DESC;
```



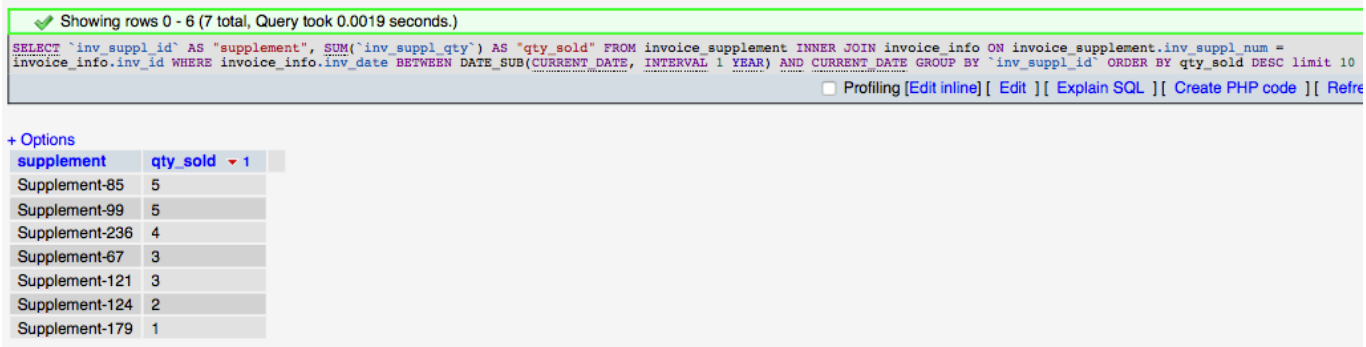
Supplements sold during the last month:

```
SELECT `inv_suppl_id` AS "supplement", SUM(`inv_suppl_qty`) AS "qty_sold"
FROM invoice_supplement
INNER JOIN invoice_info
ON invoice_supplement.inv_suppl_num = invoice_info.inv_id
WHERE invoice_info.inv_date BETWEEN DATE_SUB(CURRENT_DATE, INTERVAL 1 MONTH) AND
CURRENT_DATE
GROUP BY `inv_suppl_id` ORDER BY qty_sold DESC;
```



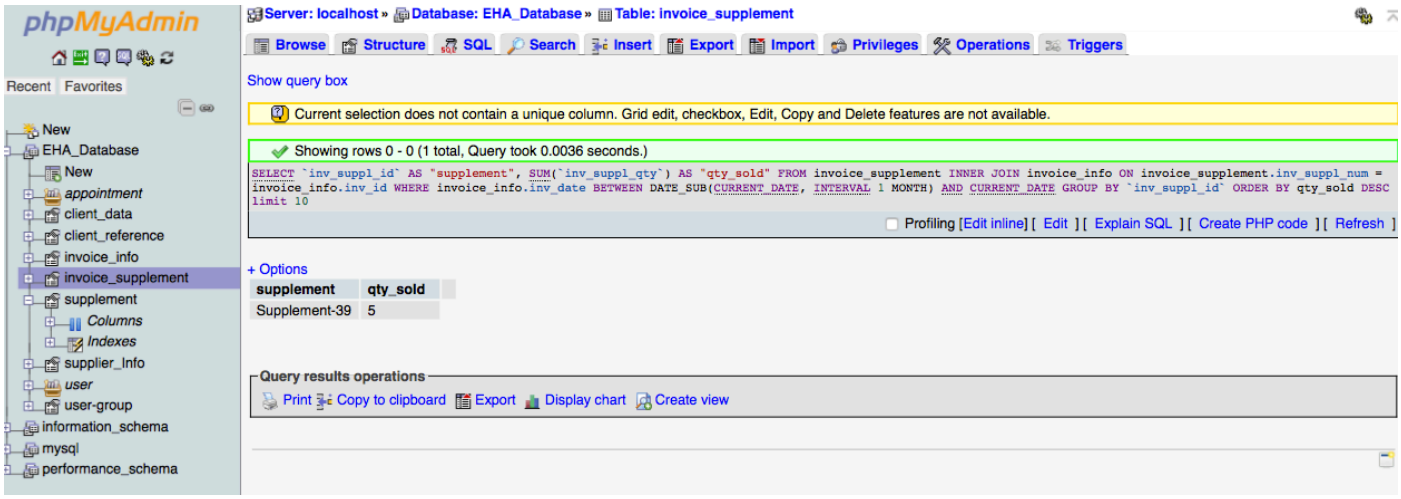
Top 10 supplements sold during the last year:

```
SELECT `inv_suppl_id` AS "supplement", SUM(`inv_suppl_qty`) AS “qty_sold"
FROM invoice_supplement
INNER JOIN invoice_info
ON invoice_supplement.inv_suppl_num = invoice_info.inv_id
WHERE invoice_info.inv_date BETWEEN DATE_SUB(CURRENT_DATE, INTERVAL 1 YEAR) AND
CURRENT_DATE
GROUP BY `inv_suppl_id` ORDER BY qty_sold DESC limit 10;
```



Top 10 supplements sold during the last month:

```
SELECT `inv_suppl_id` AS "supplement", SUM(`inv_suppl_qty`) AS "qty_sold"
FROM invoice_supplement
INNER JOIN invoice_info
ON invoice_supplement.inv_suppl_num = invoice_info.inv_id
WHERE invoice_info.inv_date BETWEEN DATE_SUB(CURRENT_DATE, INTERVAL 1 MONTH) AND
CURRENT_DATE
GROUP BY `inv_suppl_id` ORDER BY qty_sold DESC limit 10;
```

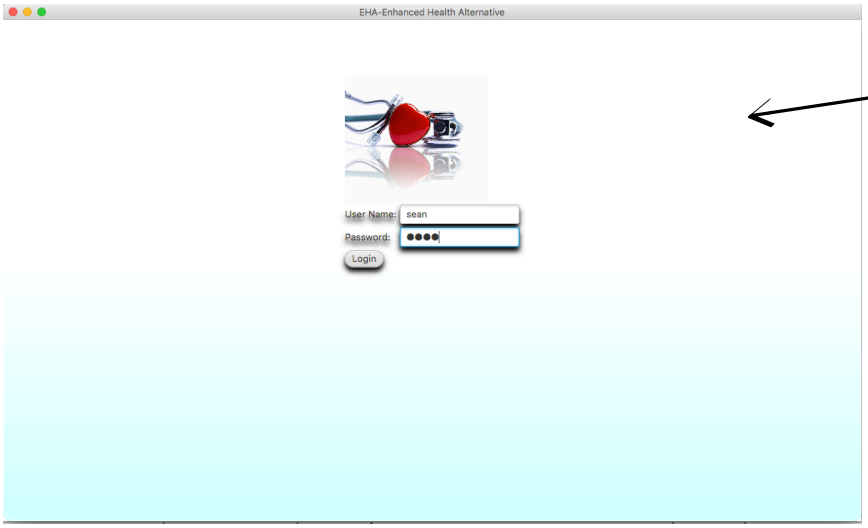


Assignment 6

Analysis and Design Documentation

Screenshots

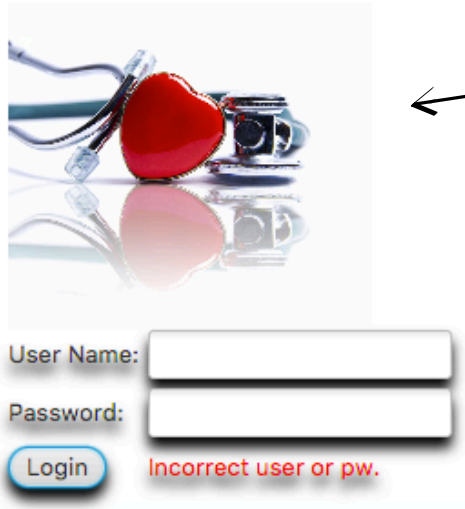
Login Screen:



Login Screen

This is the entry to the system for all users. Open design with a “less is more” approach.

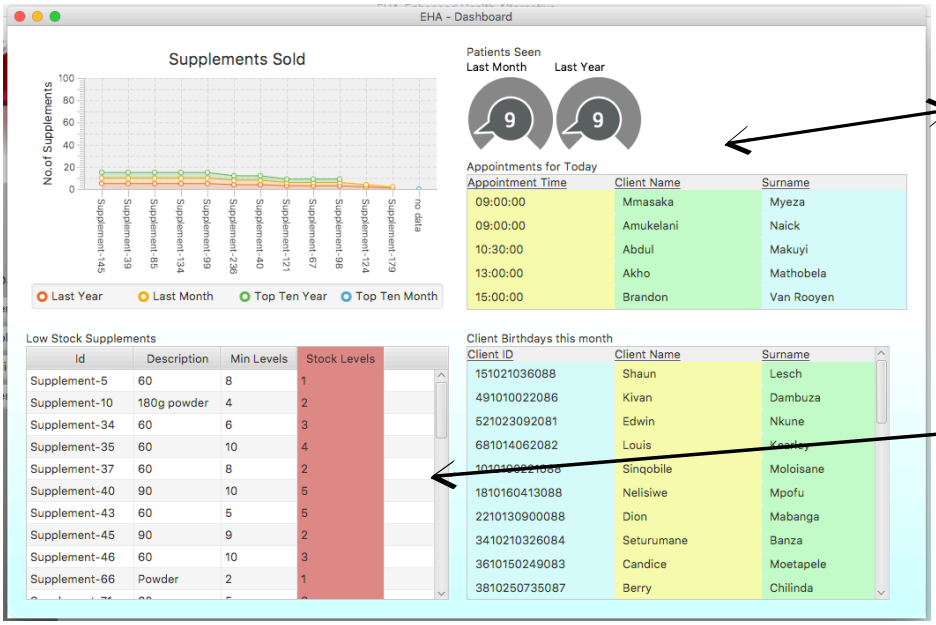
Login Screen Validation:



Login Screen Validation

This is a small system , meant for in-house use. Therefore an administrator has to grant a username and password to the user. (This Stock System is meant for administration use only and is not open to the public.)

Dashboard:



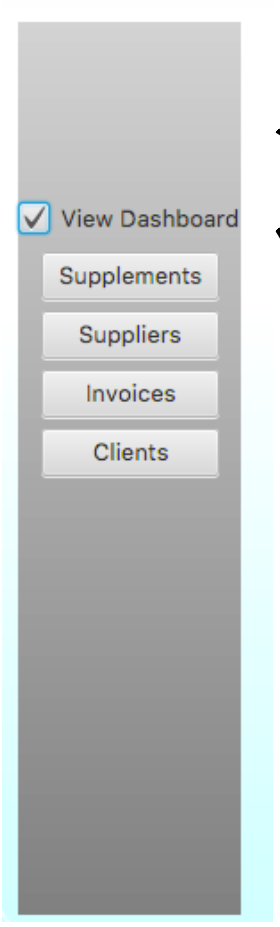
DashBoard Screen

If HCP logs in, the dashboard displays immediately in a separate screen, the user can keep this screen displayed at all times, move it around, or close/bring it back at any time using a checkbox.

Tooltips installed on all screens to help the user.

HCP can interact with dashboard, a scrollbar allows to view more info in a small space. Double-Clicking on a supplement opens the supplement dialog.

SideMenu



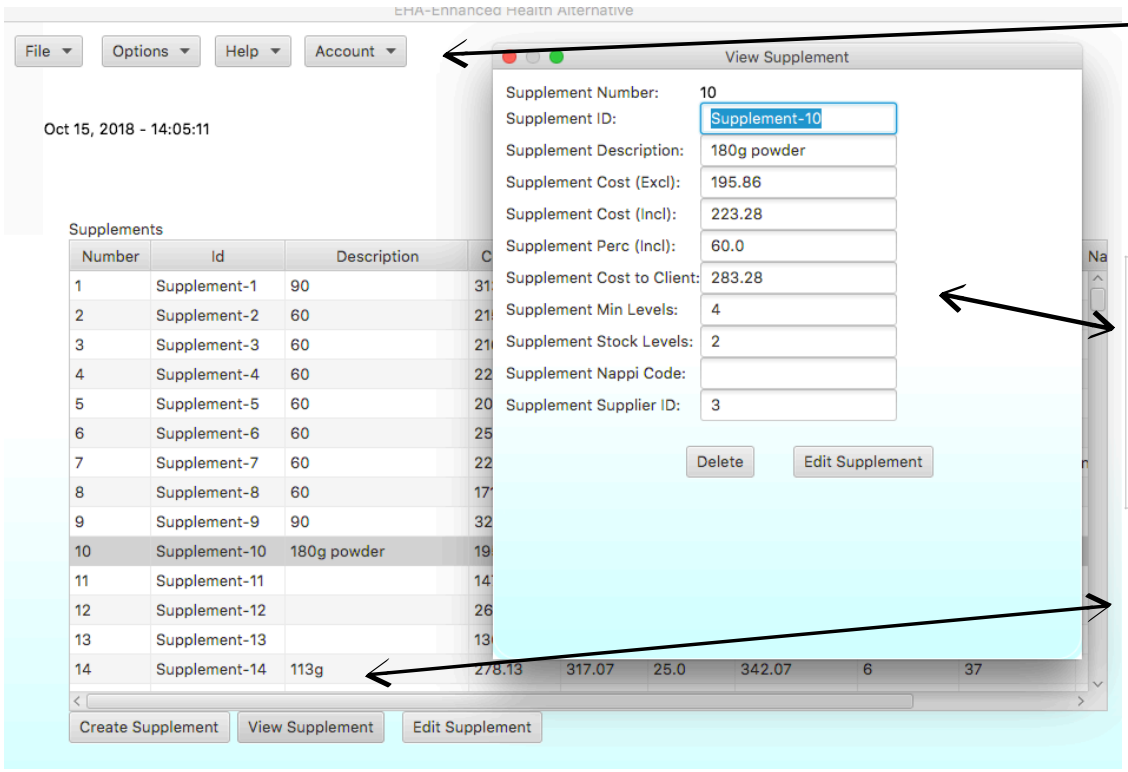
SideMenu

Used for Navigation throughout the system. A user clicks one of these buttons to navigate to the specified component.

View Dahsboard checkbox

HCP can click dashboard checkbox to view / close the dashboard at any time.

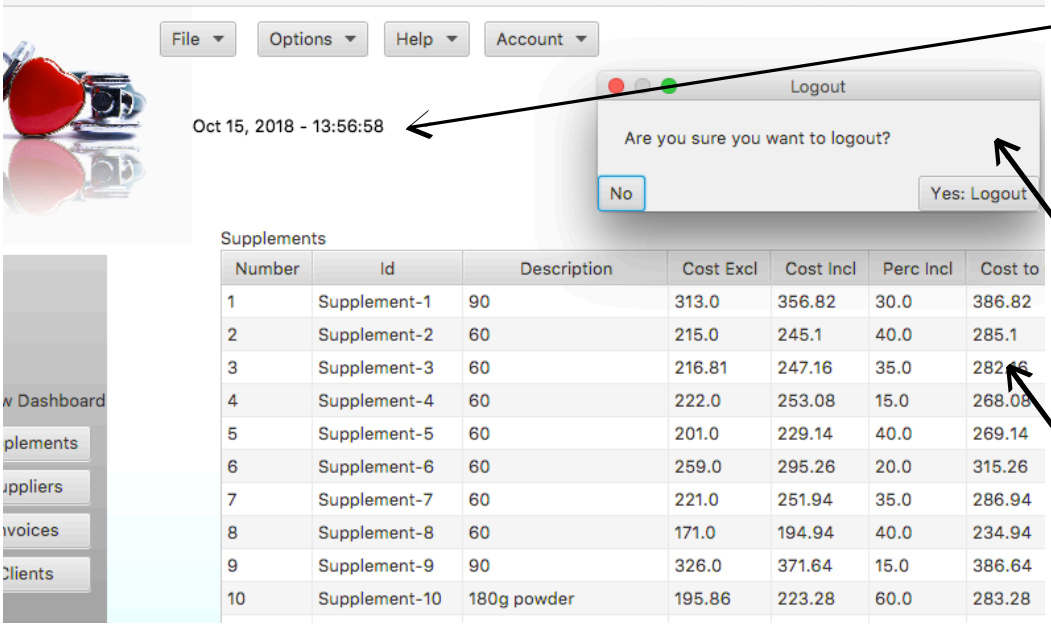
Main Landing page, with Supplement View & TopMenu



Top Menu Navigation
User clicks here to logout, view help or options.

Supplement View component
Once a supplier is selected, user can view or Edit or delete the selected supplement.

Supplement List component
Once a supplier is selected, user can click on the button at the bottom to view or Edit the selected supplier. Or create new / or even delete Supplier .

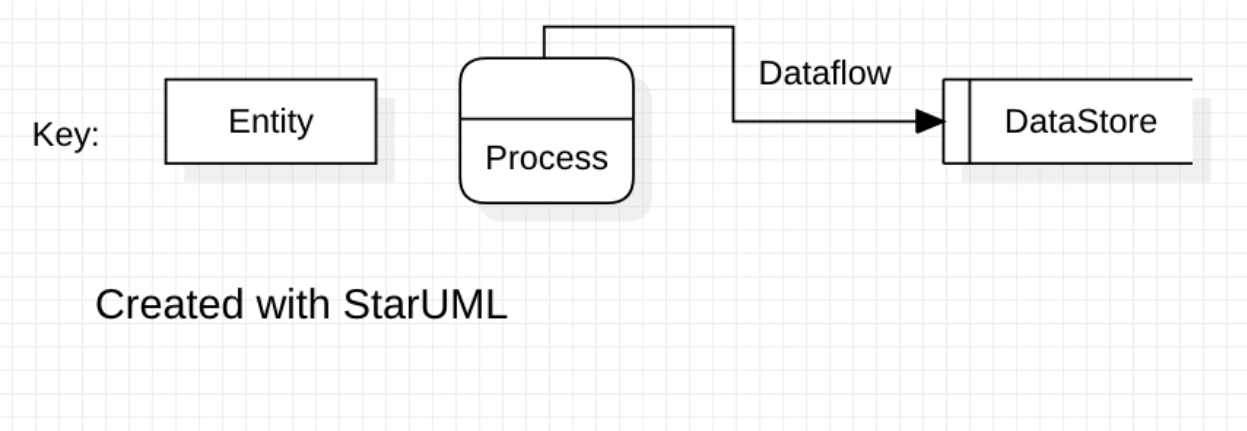


System Clock
Current System Time and Date

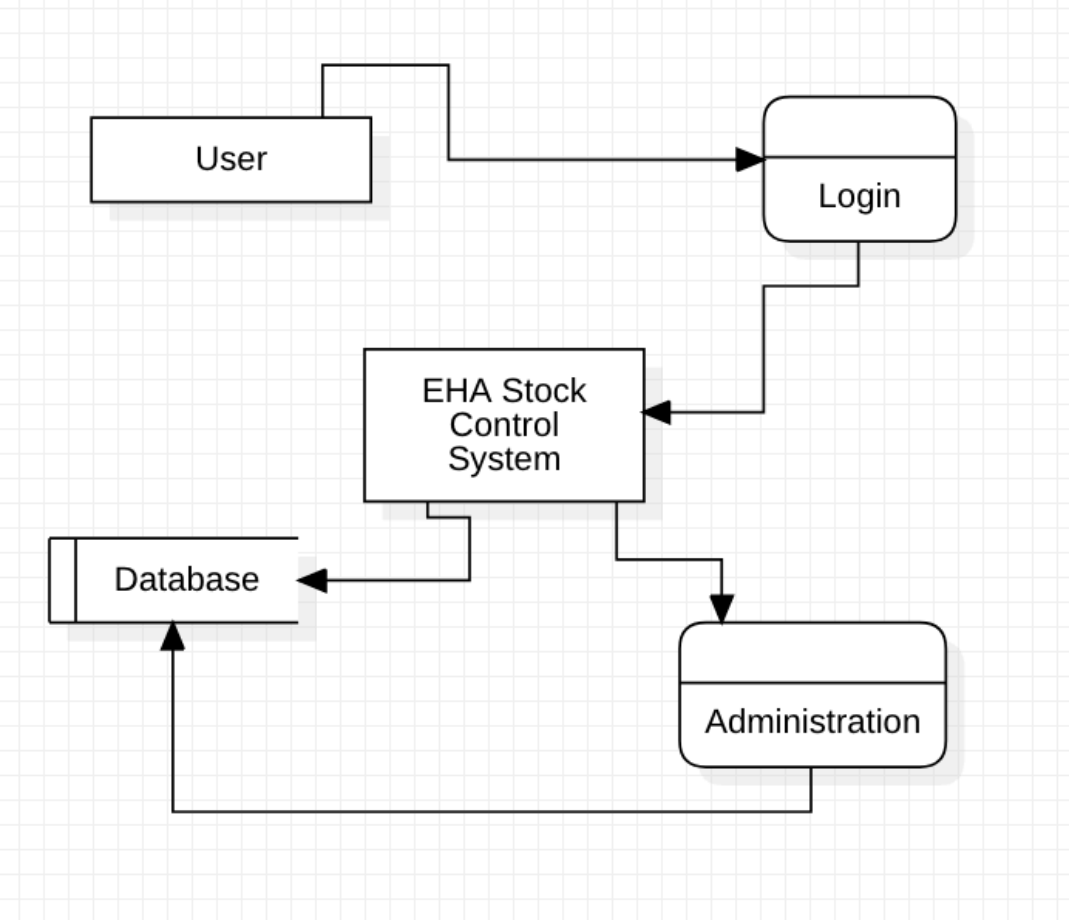
Logout Dialog
User clicks account menu to logout

Supplement List page
All current supplements are displayed in the main landing page. A user can select one and then navigate to view / edit / delete supplements.

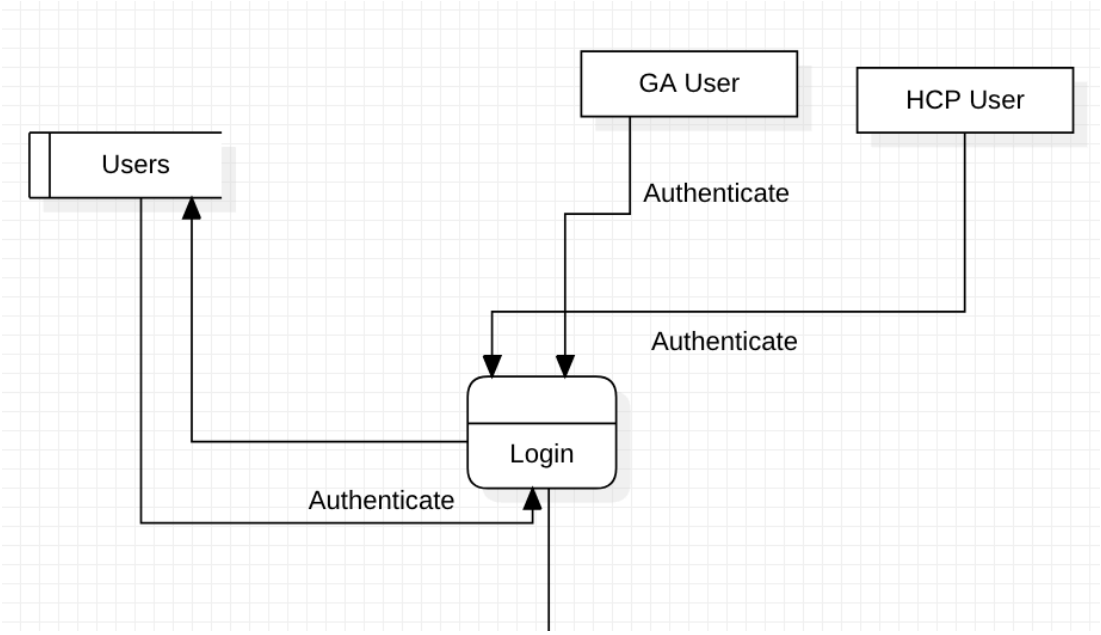
Dataflow diagrams



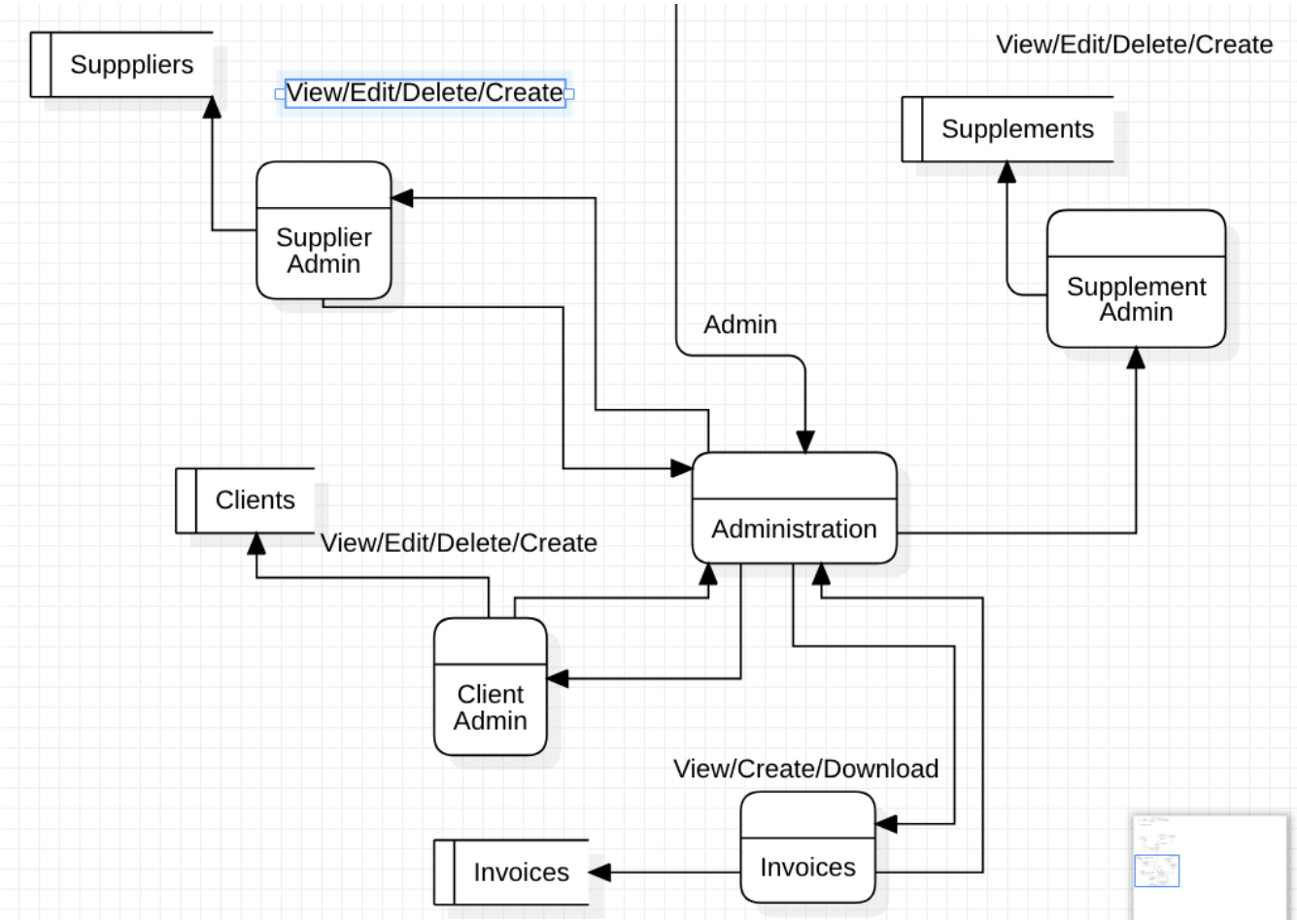
Context DFD of EHA Stock Control System



Level 1 DFD - Login Process

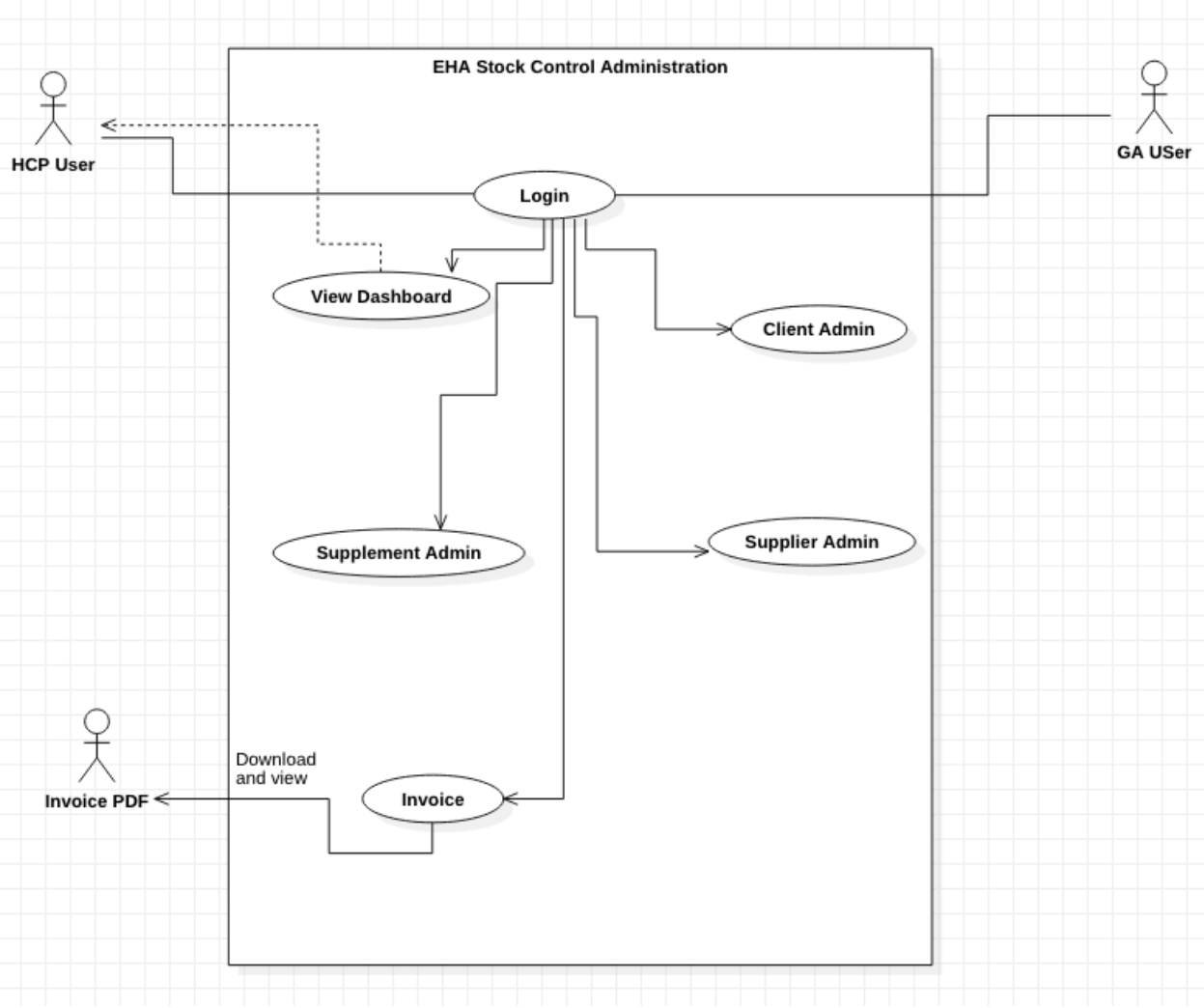


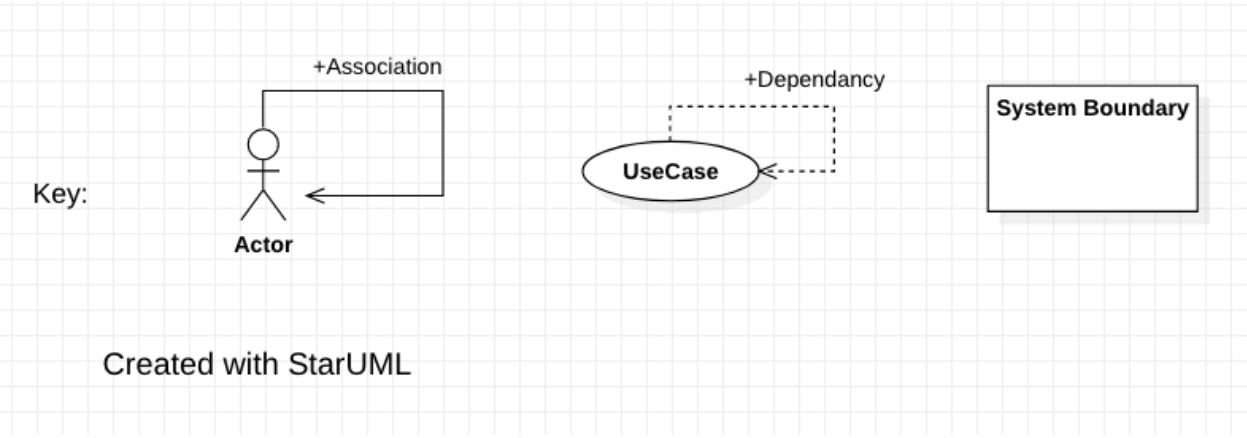
Level 2 DFD - Administration View



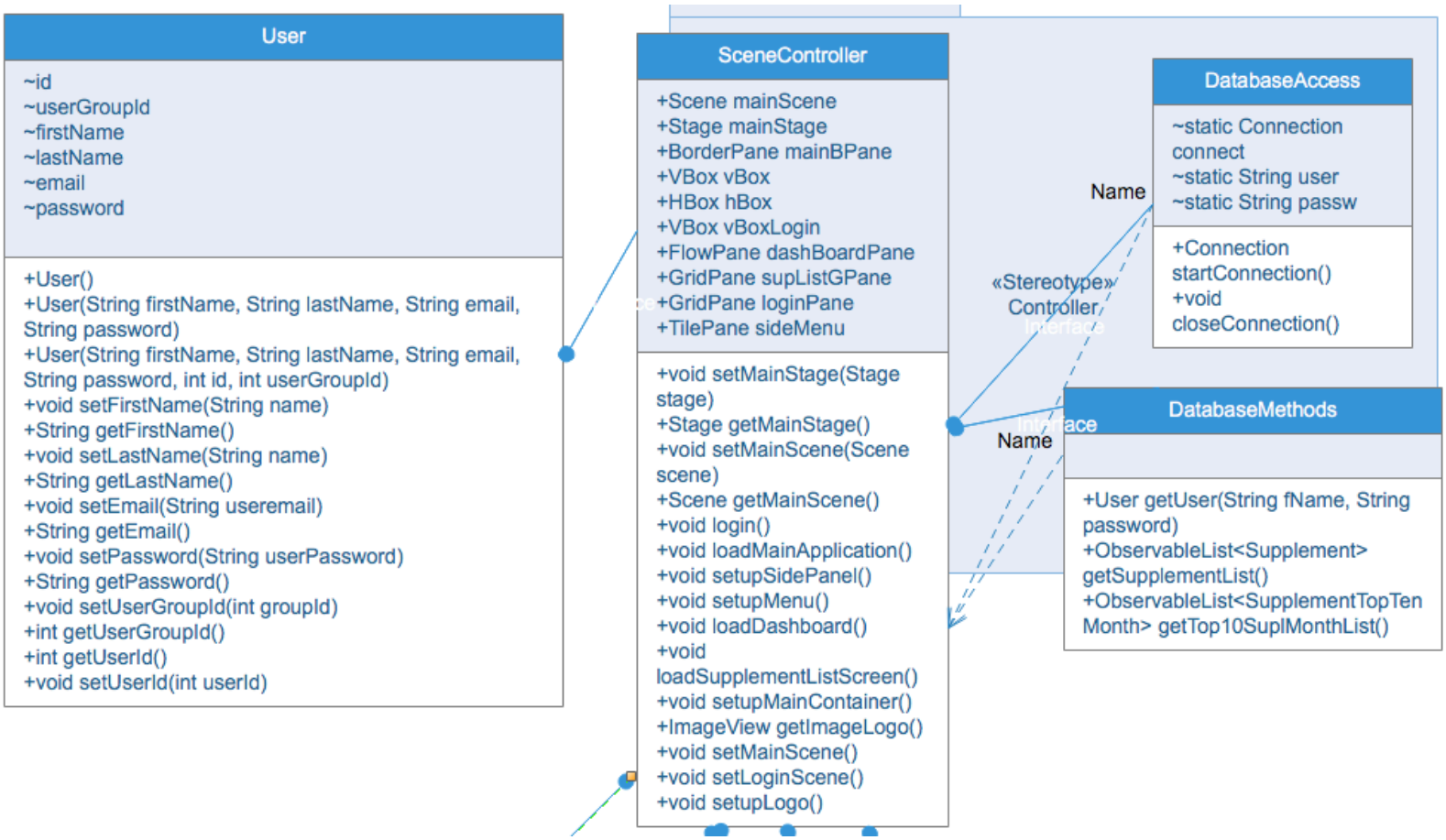
UML's diagrams

UML Use Case Diagram:

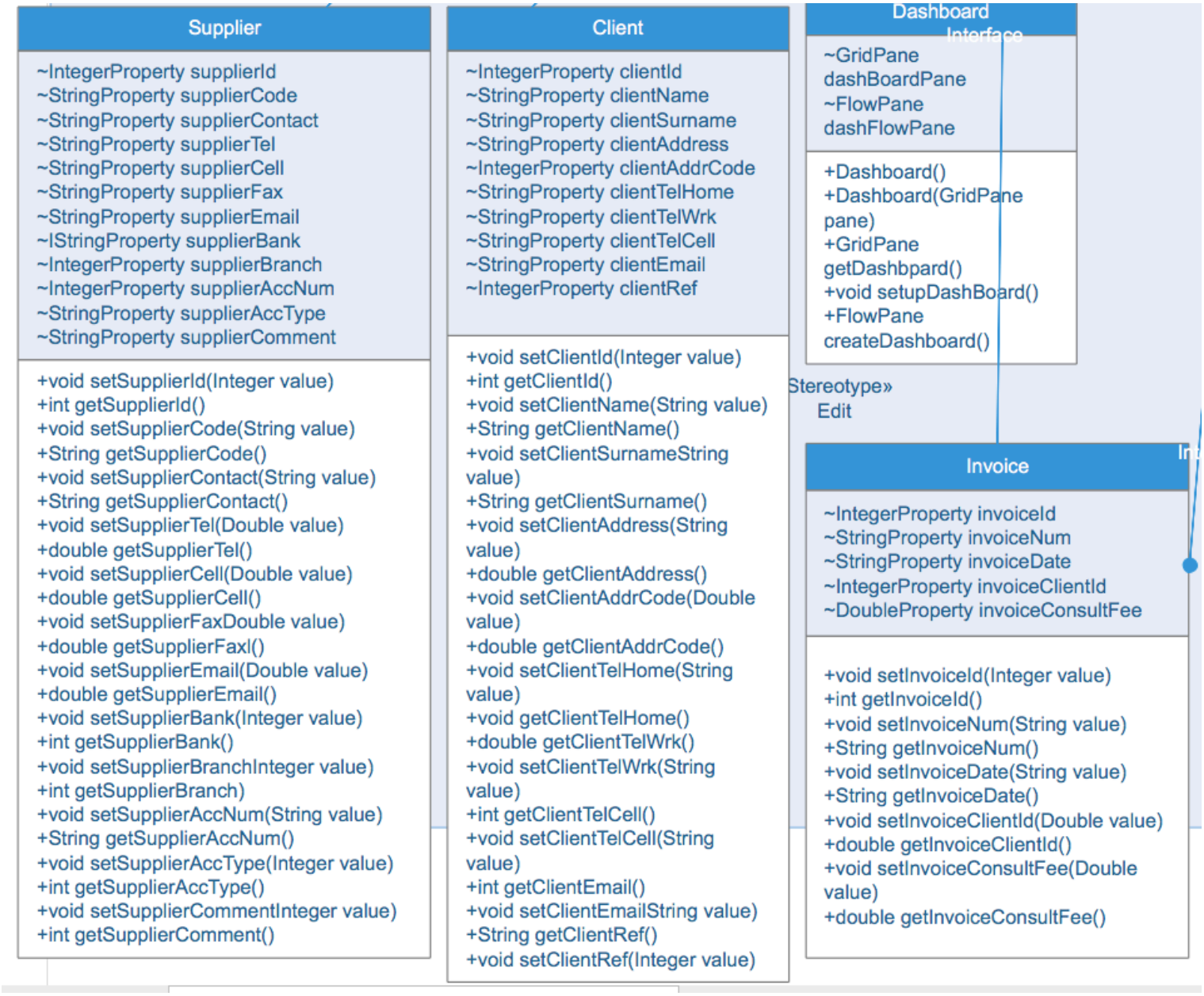




User Class and Package - Controller:



Package - Supplier, Client Invoice and Dashboard:



Package - Supplements:

Implementation Methodology

Implementation and Requirements document

Requirements
Operational Concepts:

A. Description
A GUI interface will be developed using JavaFX, for the user to interact and navigate the system. Each interface will be modular in nature. A controller class is used in the background to navigate easily between the front end and backend of the system. The system is designed for ease of use for the user. Database sync between the master and slave databases (ie Live website database and the Remote System) is managed with SymmetricDS Software. This allows for seamless use of the system with all sync happening in the background. If the system goes offline, it can still be used as normal, and once it comes back online the database sync happens automatically.

B. Development
1. Front-end software Development: Java - JavaFX, Maven for dependancy management, Netbeans IDE, JUnit unit testing. VirtualBox software for Windows 7 virtualisation, development and testing running WAMP server.
2. Back-end software: MySQL, using MAMP stack for apache, MySql server. SymmetricDS Backend database sync for seamless background syncing and backups. JDBC drivers for the Software to interact with the database.
3. Hardware: Macbook Pro 13 inch
- running Apple OS High Sierra, with 2.7Ghz Intel Core I7, 16GB DDR3 Memory

C. Implementation
1. Software: Windows 7, WAMP server, MySql database, SymmetricDS.
2. Latest version of Java needs to be installed on computer to allow interaction with the desktop application GUI.

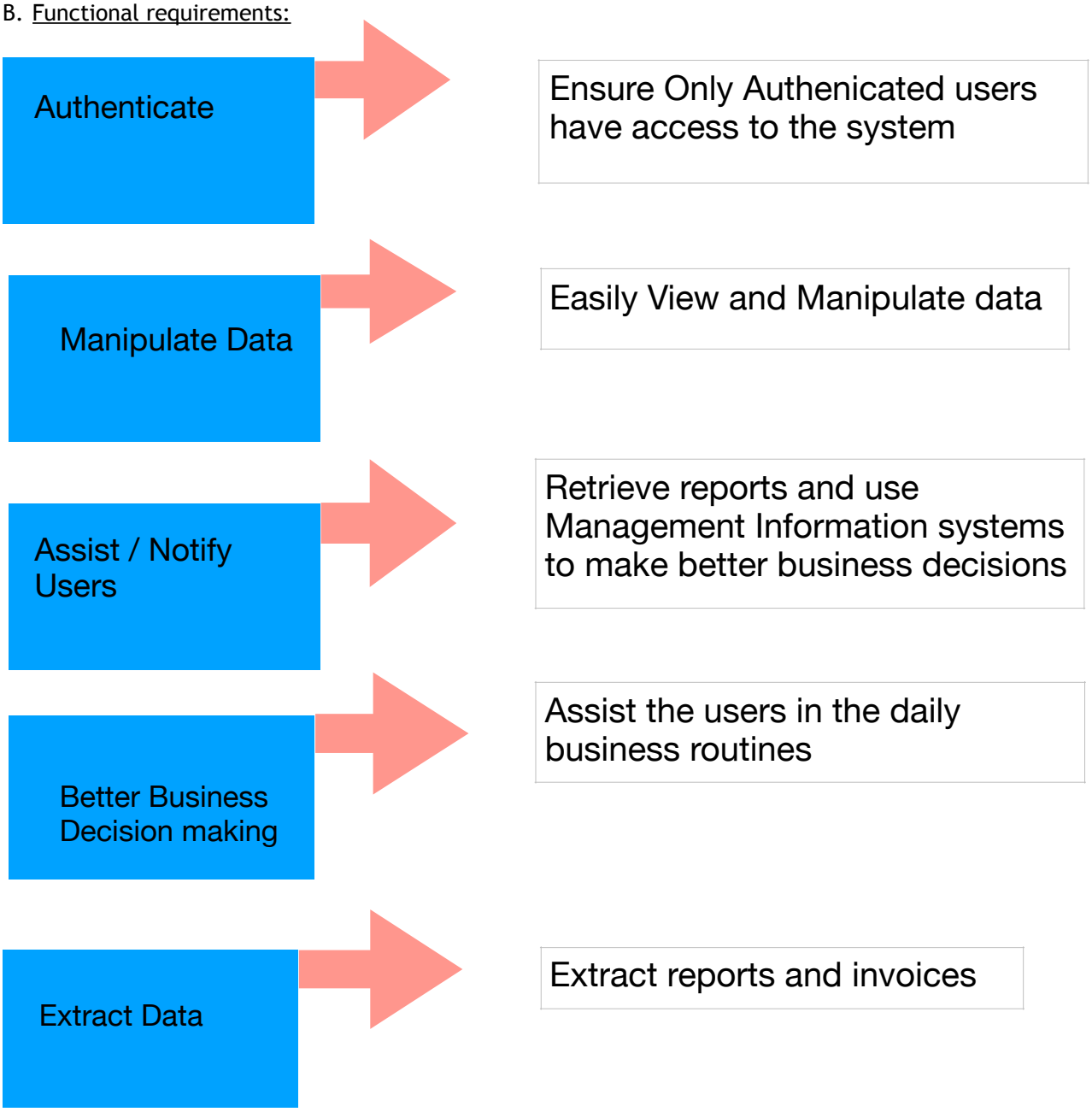
D. COMMUNICATION INTERFACES
Internet access is required for online interaction with the master database.
3. Once JAVA and the Stock system is installed, the user will be able to login and access using the JavaFX interface GUI on a local machine using Windows 7.
4. The JavaFX application makes use of JDBC drivers to interact with the database.

Technical performance
A. Operational requirements:

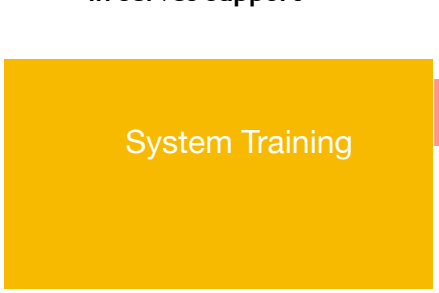
1.User details and passwords will be setup by the administrator. This means that individual users of the system will be given an account and password, and they do not have access to change or create user details themselves. The administrator decides by assigning a user to a user group in the database, and this will determine if a user gets Super user credentials or normal user credentials.

2.Once a user has successfully logged into the system, they will then be able to create, or view or edit or delete information regarding supplements, suppliers, clients and Invoices. The system is designed to allow the user to easily navigate between these screens in the system.
3.Startup requires the WAMP server to be active and running. User access already needs to be granted by administrator. Shortcut keys will be used if user chooses (enter, ctrl - S, etc) Database synchronisation and backup happens in the background with no user interaction necessary. The system will run uninterrupted irrespective of Online / Offline status.

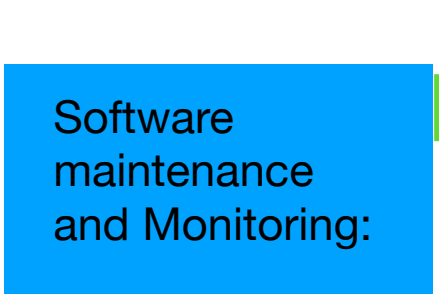
B. Functional requirements:



In serves support

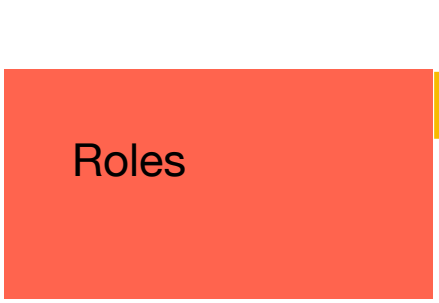


Once the system is ready for production, a training session will be held with the client. The installation procedure, setup, backup procedure and daily use of the system will be explained to the administrative staff members. The client will be shown how to login to the system, and how to view and edit all the data as required by the system specifications.

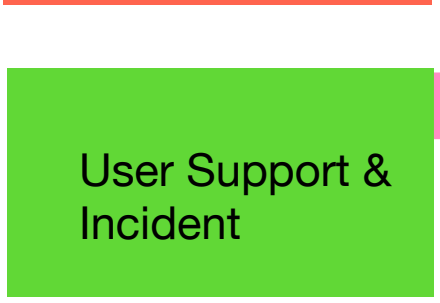


•Monitoring will be done regularly at fixed intervals, and will focus on assessing implementation performance in areas such as client/user satisfaction and performance indicators evaluation.

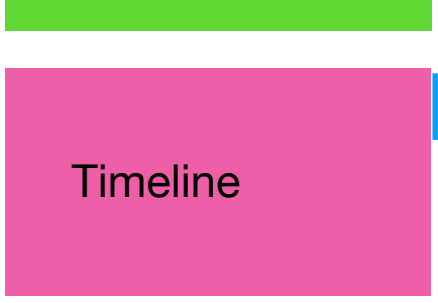
•The developers will periodically check the system and any bugs will be eliminated or new features will be added as necessary. Developers can work remotely and update the software on the website server as needed. Updates will be systematically applied and added to documentation. Training on the new feature can be done telephonically or training sessions can be arranged if necessary.



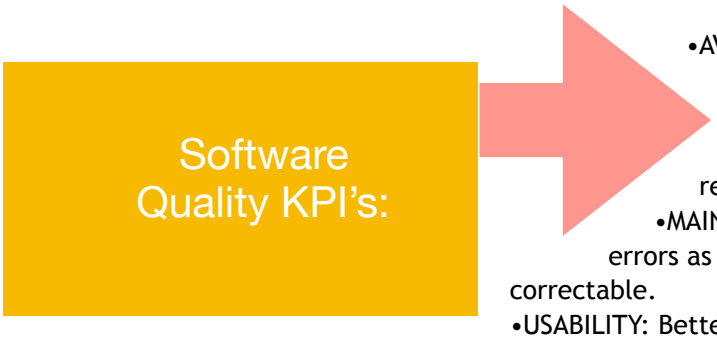
•Development Team lead - Sean Liebenberg, will be primary contact for any enquiries or escalations. The Client consists of users, any of the staff at EHA.



•Sean Liebenberg, the lead developer for this project, will be available at any time as the main support liaison to the client. Any problems will be reported directly to him, and telephonic assistance will be given. If larger problems are escalated, he will be dispatched to the site to assist if necessary.



•User support - immediate, telephonic.
•Minor escalations - 1 to 3 days turnaround time.
•Major escalations - 1 week or more depending on nature of the escalation.



•AVAILABILITY: The system should be available at any time so staff can retrieve or store important information.

•CORRECTNESS: The system should always reflect accurate information.

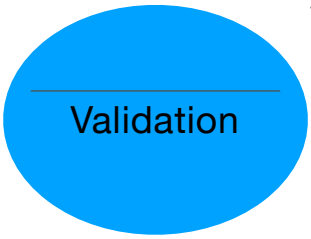
•MAINTAINABILITY: The system should give as few errors as possible, and any errors must always be easily correctable.

•USABILITY: Better control of stock. Reduction in staff time required to collect, process, analyse and report information generated by the system

- CLIENT/USER SATISFACTION
- The client should be able to easily and quickly navigate through the system to find, create or store information.

Security

The following security standards will be adhered to, in order to maintain confidentiality and strict security for this system:



WHO: Developer ensures the application validates input properly and restrictively, allowing only those types of input that are known to be correct. So as to avoid such possibilities as cross-site scripting, buffer overflow errors, and injection flaws.

Ensuring the application executes proper error handling so that errors will not provide detailed system information, deny service, impair security mechanisms, or crash the system.

Ensure the application processes data properly, and authenticates users. For example, a login process.

WHO: Administrator- WHAT- Establish authorisations for applications by affiliation, membership, or employment, rather than by individual. For example, in this system the administrator will create user accounts. For **HCP**, **Super User**, and **GA**.

Ensure the application makes use of secure storage for data. In this system, data will be stored on the website and locally on the local machine installed onsite.

WHO: Developer - Ensure that obsolete applications, or portions of applications, are removed from any possible execution environment. Once tested and running, this system will not contain any redundant code or contain any modules not meant for production, all code or modules of the system will be for daily use.

WHO: Sean Liebenberg - All staff to be trained on data security management, so as to eliminate security breaches such as phishing, identity theft and unnecessary sharing of confidential information.

Backup procedure

A. **DATA**: The entire database, along with all the data such as usernames and passwords and supplement information will be backed up periodically by the administrator in case of catastrophic failure or data loss. Database sync will happen periodically and automatically between the Master and slave databases.

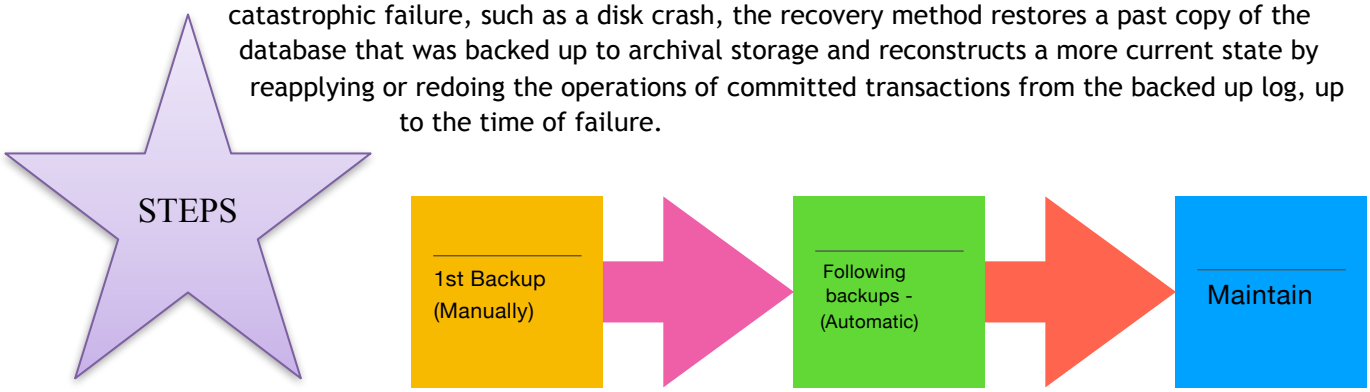
B. **LOCATION**: The database will be backed up in the cloud - on the website server. The backups will also be stored on the main computer of the Business so that the HCP has a copy of the backups at all times in case of any problems or data loss. Historical data will also be saved in both locations.

C. **FREQUENCY**: As the nature of the business calls for the possibility of new data being created every day, such as new clients being saved or supplement changes, Data will therefore be backed up incrementally at the end of every day, so as to minimise data loss. As this is quite frequent and to save hard-drive space, the backups will only be stored for a maximum of two months, thereafter the data will be overwritten by the newer data. For historical backup purposes, a snapshot of the database will be saved at the end of the two-month period. So there will be historical data saved in a separate backup folder.

D. **BACKUP DUTIES**: The developer in charge of the project, Sean Liebenberg, will ensure the smooth transition on first backup of the system, and monitor the backups for the first three months. Thereafter the client will be responsible for ensuring backups are being saved appropriately by the system.

E. **MAINTENANCE**: The client will ensure that an administrator is appointed to monitor the system, test the backups, and monitor or create backups as necessary in the future.

F. **RECOVERY**: If there is extensive damage to a wide portion of the database due to catastrophic failure, such as a disk crash, the recovery method restores a past copy of the database that was backed up to archival storage and reconstructs a more current state by reapplying or redoing the operations of committed transactions from the backed up log, up to the time of failure.



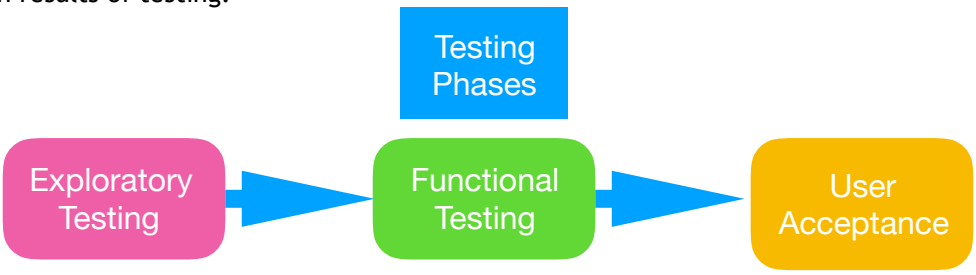
Testing and evaluation of system

A. **Description**:

The EHA Stock system is primarily a Graphical User Interface tool. It is a powerful tool providing EHA users with information and allowing users to change information easily. The system will be modularised, & controlled by a central navigational module for quick navigation between the other modules. The functionality of the system spans across the entire system, making information available anywhere, anytime.

B. **Audience**:

Project team members will consist of the technical developer team - Sean Liebenberg
Client Stakeholder representatives(EHA staff members) will participate in UAT test to ensure business is aligned with results of testing.



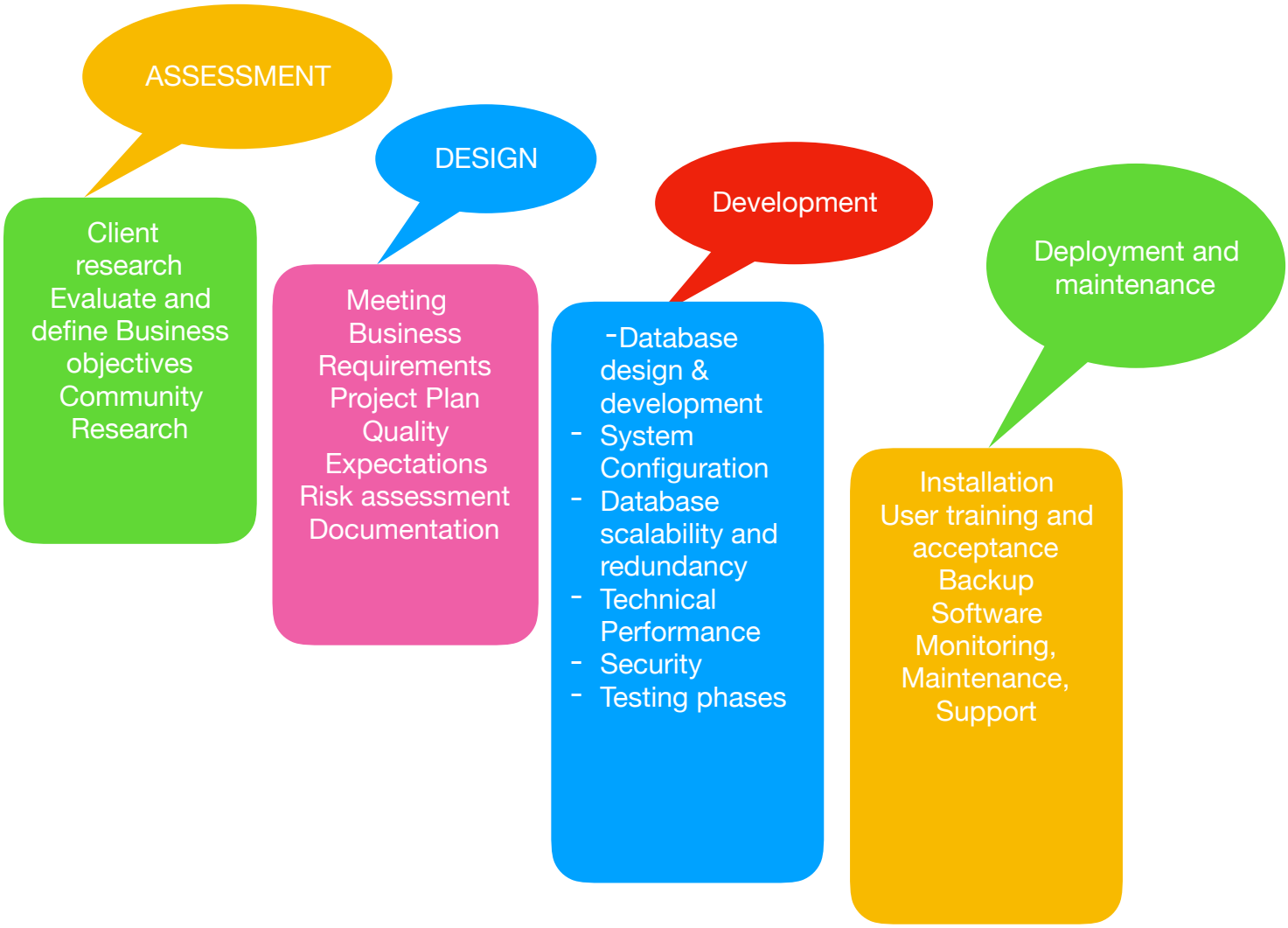
C. **Test Strategy**:

- Objectives - The main objective of the test is to ensure that the functionality of the EHA Stock system works according to the project specifications. Testing will be focused on meeting business objectives efficiently and with high quality.
- Scope - The system is modularised so every module will be tested individually for input vs output validation. CRUD operations are used in most modules of the system so every module will need to be tested to validate system functionality on the database. User Privileges can be tested by testers logging in with different User group levels to ensure the privileges are enforced as per the business rules.
- **Exploratory** Testing - This test is to ensure all critical defects are removed before the next testing phase can start. This phase will be carried out during development by the software team to ensure the application is ready for production as soon as possible. The developer will also run unit testing during development to test functionality of the system while it is being built. This will allow for fewer bugs before critical testing can begin
- **Functional** Testing - Functional testing will be performed to check the functions of the system. This testing will be carried out according to specific use cases, by feeding input into the system and validating the output from the application. Test data will be used on all inputs of the system, and the output will be monitored. Testing will be done on each module of the system, starting with the login module, until all the modules have been tested and found to meet the system requirements and acceptable outputs.
- **UAT(User Acceptance Testing)** - This testing phase will be carried out by the client. End users will provide support and feedback regarding accuracy of business needs being met by system functionality. This phase will focus on meeting the business logic. End users will use test data and provide input and feedback. This allows one final review before the product can be released for production.

D. **Test Environment**

- Windows 7 Environment, with the latest version of Java, and the EHA sock system installed. Internet explorer 8 (or Higher), Firefox 60(or Higher) as well as Google chrome should be available to every tester.

Implementation



A. The EHA stock system **Components**:
- Application GUI interface (jar file), and installation script (to install local database)
- Latest java version installed on a Windows 7 computer (downloaded from www.oracle.com)
- MySql database (installed on the EHA website) and Any web browser (preferably Google Chrome)

B. **Timeline**:
- Once the product has been developed and tested, it will be ready for installation on the client premises. The client is responsible to make sure that the windows 7 pc is setup and working properly for the installation to commence.
- The current deadline for installation on client premises is 22 October 2018.

C. **Installation**:
- First time use will require a fresh installation on the client computer.
- **Support**: Sean Liebenberg will be available to assist with the onsite installation and Future support.
- **Report to:** The HCP will need to be notified of all status regarding the installation and implementation.

- **Time:** The client will be present for the installation on premises. In order to ensure current business flow, implementation will take place outside business hours, preferably on a weekend.
- **Place:** Installation will be on the client windows 7 pc, on the client premises. Installed from the website. Internet access is required. The website must be ready & implemented for this purpose.

- **Backup:** A first backup will need to take place as part of installation procedure so as to ensure future backups occur, and this will also aid in user training. Once the client is fully trained on the system functionality they will be able to immediately switch over to the system for normal daily business use.
- **Rollback:** The database will be backed up to csv files for easy rollback to previous versions, also to aid the process of installing on local machine. The csv files can be easily used to manually restore the database if necessary. A sql file will also be backed up regularly which stores a snapshot of the entire database. An extra two weeks has been budgeted for, in case of catastrophic failure of the installation, this will allow time to fix any major problems with the system if the need arises.

- **Testing:** Once the installation process is complete, a user will be able to run the software, login and test if everything is working as it should.All inputs and output of all modules of the system will be tested. (This will mark the final stage in the UAT - User Acceptance testing) An installation manual, and user help files will be provided to the user. This will include any changes to the system.
- **User Sign-off:** Once installation is complete and tested, the user will sign off to acknowledge that the system is working and installation is complete.

D. **Implementation Procedure**:

1. Testing - Exploratory, functional and UAT
2. Website and database implementation and Testing
3. Documentation and installation scripts
4. Installation at Client premises
5. Client Sign-off
6. Monitoring, maintenance and Support

Assignment 7

User manual

Enlightened Health Alternative

Stock System Software User Manual

Software v1.01 - 01 October 2018

Preface

**THIS SOFTWARE GUIDE IS INTENDED FOR EHA USERS WHO WANT TO BE QUICKLY FAMILIARISED WITH THE
SOFTWARE, CONFIGURE IT AND USE ITS FEATURES.
FOR DETAILED INSTRUCTIONS ON HOW TO INSTALL AND CONFIGURE ALL ASPECTS OF THE SYSTEM:
PLEASE REFER TO THE ACCOMPANYING INSTALLATION MANUAL - EHA STOCKSYSTEM SOFTWARE V1.0 - 2018**

PLEASE CONTACT YOUR ADMINISTRATOR FOR FURTHER DETAILED INSTRUCTIONS AND TO COLLECT YOUR LOGIN DETAILS AND INSTALLATION PACKAGE.

Table of Contents

1.0 GENERAL INFORMATION

1.0 - Intended Audience

This document is intended equally for use by Administrators, Business Management, and general users of the system who want to be quickly familiarised with the software, configure it and use its features.

1.1 - System Overview

EHA Stock System is an application that allows collecting and managing information of the EHA Supplement Stock, EHA Clients, Invoices, appointments, and EHA Supplement Suppliers. The application provides an easy and user-friendly way to manage information. This version of the Stock system is currently intended to operate on a Windows 7 operating system, running the latest version of Java, and a WAMP server.

1.2 - Organisation of the Manual

This user's manual consists of five sections:

1. The General Information section: which explains in general terms the system and the purpose for which it is intended.
2. System Summary: provides a general overview of the system and outlines the uses of the system's hardware and software requirements, system's configuration, user access levels and system's behavior in case of any contingencies.
3. Getting Started section: explains how to get The Stock System installation file and once installed - how to get it running and login to the system.
4. Using the System section provides a detailed description of system functions.
5. Admin and Management describes further features which are only available to Administrators and Management of EHA. And describes in what way information collected by the application is presented and how to access or use the information.

1.2.1 - Colour Key to this document

- Blue: General features for every user
- Orange: Privileged features meant for management of EHA
- Red: General Help and Warnings

2.0 SYSTEM SUMMARY

2.1 - System Configuration

This EHA Stock System software operates on a Windows 7 operating system. The application requires connection to the Internet in order to save data to database. The latest version of Java also needs to be installed, along with the latest version of WAMP (for offline use). Please refer the Installation manual for detailed installation instructions. After installation of all aspects of this system is complete on the computer, this stock System software can be used immediately without any further configuration.

2.2 - User Access Levels

Only employees of EHA - Enlightened Health Alternative can use application. Please contact your administrator to receive a username and password for login purposes.

2.3 - Contingencies

In case of no Internet connection available, data can be saved in local database located on WAMP server of the operating system. Once failover has been initiated to the server - normal operation can commence on the system. Data will be automatically synced back to the online server once the internet connection is restored.

3.0 GETTING STARTED

This section provides an overview of the main components, and how to get the system up and running quickly.

3.1 - Installation and Logging In

The newest installation version currently available, can be downloaded from the EHA website, or delivered to the user together with User ID and password as an installation package. For specific instruction on how to install application refer to EHA Stock System Installation Manual, or speak to your administrator. Once installed, please startup the application by clicking on the exe file. This loads the login screen

3.2 - System Login Screen

EHA Stock System is designed for ease of use, and to be fast and reliant. All controls are easily accessible. The very first screen you will see is the login screen (Figure 1). Enter your username and password and click the enter button.

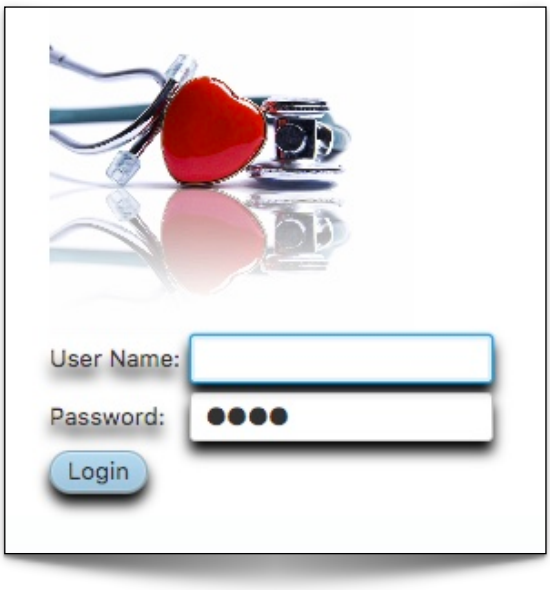


Figure 1. Login Screen for EHA Stock System Application

3.3 - Main Landing page

The main landing screen is your central hub to all of the information in the system. You will immediately see a list of all the supplements and you will also be able to navigate anywhere in the system from this point. You can navigate further to view or change Supplier Information, Invoice Information, or Client information.

3.4 - Side menu Tab

The side Menu Tab (Figure 2) is your main navigation tab between the major components of the system in the Landing Page. Simply clicking on one of the buttons will load the relevant component for you. You can navigate using this tab to the Client component, Supplier component, Invoice component or Supplement component.

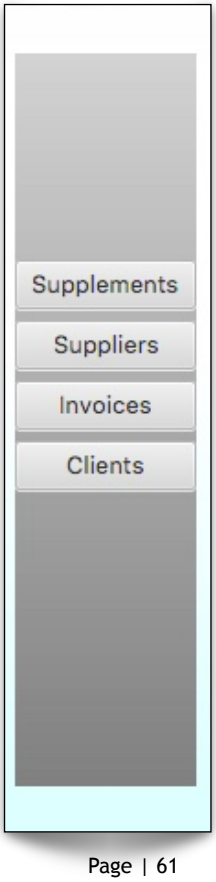


Figure 2. Side Menu Buttons

3.5 - Top Settings Menu

The Top menu (Figure 3) allows you further configuration options. You are provided with an Options Menu, File Menu, Help Menu, and an account Menu which allows you to logout.

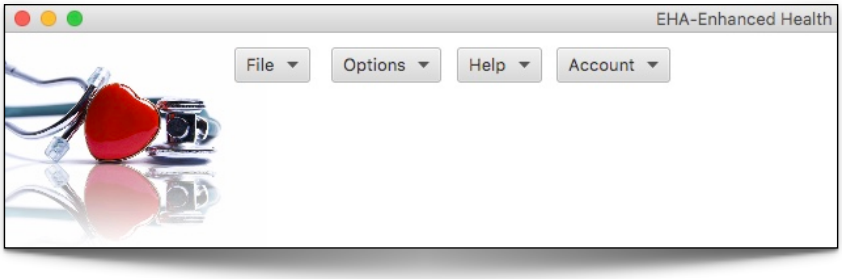


Figure 3. Top Settings Menu

3.6 - Exit System

EHA Stock System Software can be closed by simply closing the main window.

4.0 USING THE SYSTEM

This section provides a detailed description of system functions.

4.0.0 - System Login

Once the application is started, you will see the Login screen (Figure 5). Type in your user name and password (provided to you by the system administrator). If you typed incorrectly (Password is case sensitive) you will see a notification that login was unsuccessful, please try again. If successful you will be navigated to the main landing page of the application. From here you can navigate to the desired component by clicking on the Side Menu Tab.

If, for some reason you are unable to login using the provided user name and password, please contact your administrator.

Figure 5. Login screen showing error

4.1.0 - Supplement Component

The default view of the Main Landing page is the Supplement Component (Figure 6). You will see a detailed list of all the supplements currently in the system. You can easily scroll and search the list and select a supplement to view or edit. Once selected from the list, you can click Edit Supplement or View Supplement to open a form with the selected supplement details.

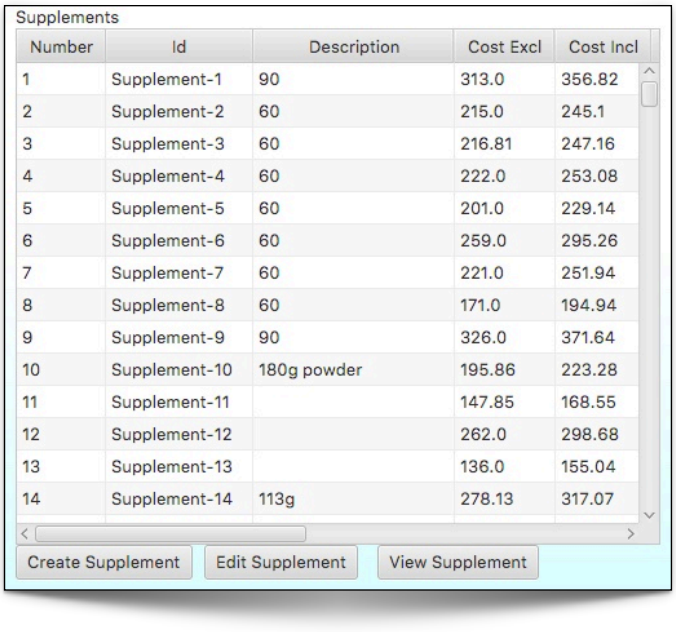


Figure 6. Supplement List Component

4.1.1 - How to View, Edit or Delete a Supplement

1. First search for and select a supplement from the list screen.
2. Once a supplement is selected from the list, you can now click <<View Supplement>> button to view the supplement details.
3. From the Supplement View screen you can now also click <<Edit Supplement>>, or <<Delete Supplement>> to change the supplement details.
4. To Edit a Supplement - You will be able to Edit data for the following fields :
    - Supplement ID: The Id associated with the supplement
    - Supplement Description: A brief description of the supplement
    - Supplement Cost (Excl): The cost Excluding vat
    - Supplement Cost (Inc): The cost including vat
    - Supplement Perc (Incl): The markup price of the supplement
    - Supplement cost to client: The total cost the client pays
    - Supplement min levels: A threshold to describe the min value of stock allowed
    - Supplement stock levels: The actual amount of the stock item in the inventory
    - Supplement Nappi code: Code of the stock item
    - Supplement supplier ID: The Id of the supplier associated with this item

5. If you made a mistake, click <<Clear Fields>> button and all fields will be set blank.
6. Click <<Save>> button, if correct data is entered, the supplement details will be saved to the database and you will receive a notification. Else you will see a notification that incorrect data was entered and be redirected to the incorrect field (highlighted in red). Enter the data in the correct format, and click <<Save>> again.
7. To Delete, simply click the <<Delete Supplement>> button and the current supplement will be deleted from the database.
8. Click <<Close>> button to close the current window and return to the main landing page of the application.

If you Delete, Make sure you delete the correct supplement! This cannot be undone and Data will be lost

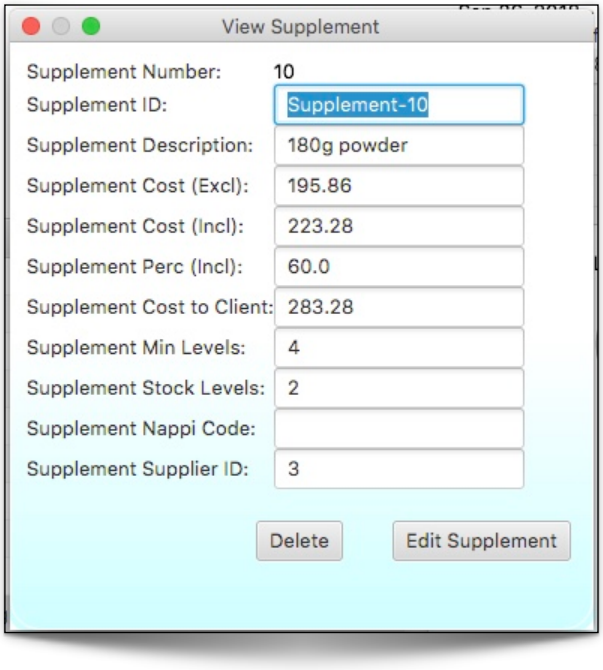


Figure 7. Supplement Component (with data fields)

4.1.1 - How to Save a new Supplement

1. Click <<Create Supplement>> button
2. Fill in the data in the fields
3. You will be able to Edit data for the following fields :
   - Supplement ID: The Id associated with the supplement
   - Supplement Description: A brief description of the supplement
   - Supplement Cost (Excl): The cost Excluding vat
   - Supplement Cost (Inc): The cost including vat
   - Supplement Perc (Incl): The markup price of the supplement
   - Supplement cost to client: The total cost the client pays
   - Supplement min levels: A threshold to describe the min value of stock allowed
   - Supplement stock levels: The actual amount of the stock item in the inventory
   - Supplement Nappi code: Code of the stock item
   - Supplement supplier ID: The Id of the supplier associated with this item

4. If you made a mistake, click <<Clear Fields>> button and all fields will be set blank.
5. Click <<Save>> button, if correct data is entered, the supplement details will be saved to the database and you will receive a notification. Else you will see a notification that incorrect data was entered and be redirected to the incorrect field (highlighted in red). Enter the data in the correct format, and click <<Save>> again.
6. Click <<Close>> button to close the current window and return to the main landing page of the application.

4.2.0 - Suppliers Component

Click the <<Suppliers>> button on the side tab to navigate to the Suppliers component (Figure 8). You will see a detailed list of all the suppliers currently in the system. You can easily scroll and search the list and select a supplier to view or edit. Once selected from the list, you can click <<Edit Supplier>> or <<View Supplier>> to open a form with the selected Supplier details.

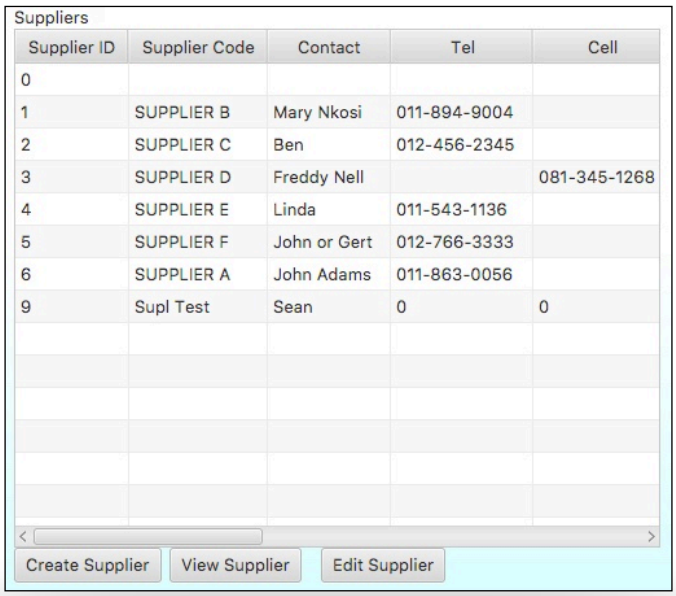


Figure 8. Supplier List Component

4.2.1 - How to View, Edit or Delete a Supplier

1. First search for and select a supplier from the list screen.
2. Once a supplier is selected from the list, you can now click <<View Supplier >> button to view the supplier details.
3. From the Supplier View screen you can now also click <<Edit Supplier >>, or <<Delete Supplier >> to change the Supplier details.

4. To Edit a Supplier - You will be able to Edit data for the following fields :
   - Supplier Code: The code of the specific supplier
   - Supplier Contact: The supplier name
   - Supplier Tel: The contact telephone number
   - Supplier Cell: The contact cellphone number
   - Supplier Fax: The contact fax number
   - Supplier Email: The contact email address
   - Supplier Bank: The Supplier Bank name
   - Supplier Branch code: The Supplier Bank code
   - Supplier account number: The Supplier Bank account number to pay the supplier
   - Supplier account type: The Supplier Bank account type
   - Supplier comments: General comments to note about the supplier
5. If you made a mistake, click <<Clear Fields>> button and all fields will be set blank.
6. Click <<Save>> button, if correct data is entered, the supplier details will be saved to the database and you will receive a notification. Else you will see a notification that incorrect data was entered and be redirected to the incorrect field (highlighted in red). Enter the data in the correct format, and click <<Save>> again.
7. To Delete, simply click the <<Delete Supplier >> button and the current supplier will be deleted from the database.
8. Click <<Close>> button to close the current window and return to the main landing page of the application.

If you Delete, Make sure you delete the correct supplier! This cannot be undone and Data will be lost

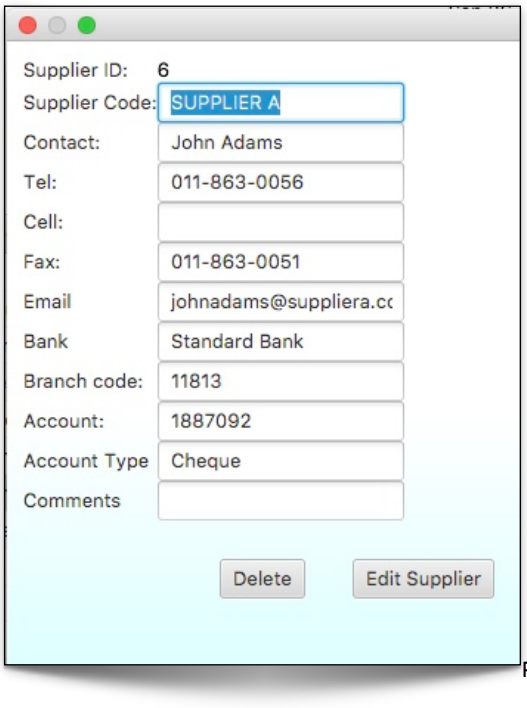


Figure 9. Supplier Edit Component (with data fields)

4.2.2 - How to Save a new Supplier

1. Click <<Create Supplier >> button
2. Fill in the data in the fields
3. You will be able to Edit data for the following fields :
   - Supplier Code: The code of the specific supplier
   - Supplier Contact: The supplier name
   - Supplier Tel: The contact telephone number
   - Supplier Cell: The contact cellphone number
   - Supplier Fax: The contact fax number
   - Supplier Email: The contact email address
   - Supplier Bank: The Supplier Bank name
   - Supplier Branch code: The Supplier Bank code
   - Supplier account number: The Supplier Bank account number to pay the supplier
   - Supplier account type: The Supplier Bank account type
   - Supplier comments: General comments to note about the supplier
4. If you made a mistake, click <<Clear Fields>> button and all fields will be set blank.
5. Click <<Save>> button, if correct data is entered, the supplement details will be saved to the database and you will receive a notification. Else you will see a notification that incorrect data was entered and be redirected to the incorrect field (highlighted in red). Enter the data in the correct format, and click <<Save>> again.
6. Click <<Close>> button to close the current window and return to the main landing page of the application.

4.3.0 - Client Component

Click the << Client >> button on the side tab to navigate to the Client component (Figure 10). You will see a detailed list of all the Clients currently in the system. You can easily scroll and search the list and select a Client to view or edit. Once selected from the list, you can click <<Edit Client >> or <<View Client >> to open a form with the selected Client details.

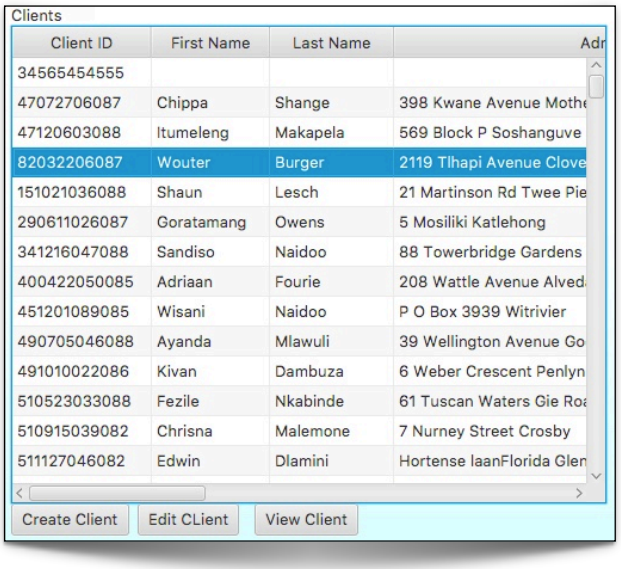


Figure 10. Client List Component

4.3.1 - How to View, Edit or Delete a Client

1. First search for and select a Client from the list screen.
2. Once a Client is selected from the list, you can now click <<View Client >> button to view the Client details.
3. From the Supplier View screen you can now also click <<Edit Client >>, or <<Delete Client >> to change the Client details.
4. To Edit a Client - You will be able to Edit data for the following fields :
   - Client First Name: The client's first name
   - Client Last Name: The client's last name
   - Client Address: The address of the client
   - Client Address Code: The postal code of the client
   - Client Tel: The client contact telephone number
   - Client Work: The client work telephone number
   - Client Cell: The client cell number
   - Client Email: The client email address
   - Client Reference: A description of how the client heard of our services?
5. If you made a mistake, click <<Clear Fields>> button and all fields will be set blank.
6. Click <<Save>> button, if correct data is entered, the Client details will be saved to the database and you will receive a notification. Else you will see a notification that incorrect data was entered and be redirected to the incorrect field (highlighted in red). Enter the data in the correct format, and click <<Save>> again.
7. To Delete, simply click the <<Delete Client >> button and the current Client will be deleted from the database.
8. Click <<Close>> button to close the current window and return to the main landing page of the application.

If you Delete, Make sure you delete the correct client! This cannot be undone and Data will be lost

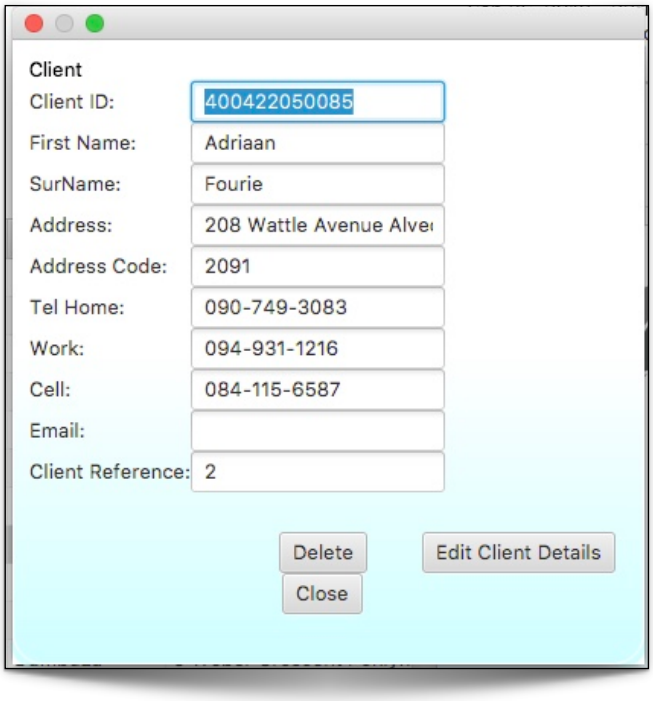


Figure 11. Client Edit Component (with data fields)

4.3.2 - How to Save a new Client

1. Click <<Create Client >> button
2. Fill in the data in the fields
3. You will be able to Edit data for the following fields :
   - Client ID: The 13 Digit ID number of the client.
   - Client First Name: The client's first name
   - Client Last Name: The client's last name
   - Client Address: The address of the client
   - Client Address Code: The postal code of the client
   - Client Tel: The client contact telephone number
   - Client Work: The client work telephone number
   - Client Cell: The client cell number
   - Client Email: The client email address
   - Client Reference: A description of how the client heard of our services?
4. If you made a mistake, click <<Clear Fields>> button and all fields will be set blank.
5. Click <<Save>> button, if correct data is entered, the Client details will be saved to the database and you will receive a notification. Else you will see a notification that incorrect data was entered and be redirected to the incorrect field (highlighted in red). Enter the data in the correct format, and click <<Save>> again.
6. Click <<Close>> button to close the current window and return to the main landing page of the application.

4.4.0 - Invoice Component

Click the << Invoice >> button on the side tab to navigate to the Invoice component. You will see a detailed list of all the Invoices currently in the system. You can easily scroll and search the list and select a Invoice to view. Once selected from the list, you can click <<View Invoice >> to open a form with the selected Invoice details.

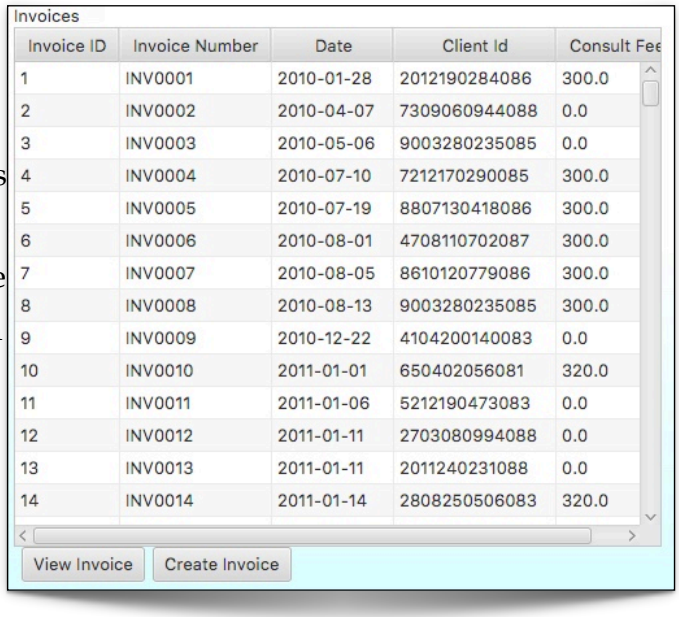


Figure 12. Invoice List Component

4.3.1 - How to View, Create and Download an Invoice

1. First search for and select a Invoice from the list screen.
2. Once a Invoice is selected from the list, you can now click <<View Invoice >> button to view the Invoice details.
3. From the Invoice View screen you can now also click <<Download Invoice >> to download the invoice to your computer to email to the client for payment.
4. Click <<Close>> button to close the current window and return to the main landing page of the application.

4.3.2 - How to Save a new Invoice

1. Click <<Create Invoice >> button
2. Fill in the data in the fields
3. You will be able to Enter and view data for the following fields :
    - Invoice Number: The number of the Invoice saved
    - Invoice Date: The date of the invoice saved
    - Invoice Client ID: The client's 13 digit ID number associated with the invoice (Choose a client from the list)
    - Invoice Consultation Fee: Fee owed by client for consultation with Health Care Practitioner

<<Choose a Supplement from the list to add to the invoice>>
(you can add as many a necessary as long as the stock levels allow the sale)

- Invoice Supplement ID: The ID number of the Supplement
- Invoice Supplement Price: The price of the supplement (No changes allowed here)
- Invoice Supplement Quantity: The amount of items sold for this supplement on this invoice
- Invoice Supplement Price Total: The price of the supplements multiplied by the quantity sold (Automatically calculated)
- Invoice Supplement Total Price with Consultation: Total price including consult fee (Automatically calculated)

4. If you made a mistake, click <<Clear Fields>> button and all fields will be set blank.
5. Click <<Save>> button, if correct data is entered, the Client details will be saved to the database and you will receive a notification. Else you will see a notification that

incorrect data was entered and be redirected to the incorrect field (highlighted in red). Enter the data in the correct format, and click <<Save>> again.

6. Click <<Close>> button to close the current window and return to the main landing page of the application.
7. For historical purposes, Invoice data will not be deleted from the system. For any queries regarding Invoices, please contact your system administrator.

5.0 ADMINISTRATION AND MANAGEMENT FEATURES

This section provides further insight into the features provided to Management of EHA

5.0.1 - Dashboard

If you have been granted Admin or Management privileges by your administrator, you will additionally also see a dashboard (Figure 4) on the Right hand side of the screen. This will provide you with an overall view of various information to assist with decision making. You will see graphs containing Supplement Information, Client birthdays and appointments, and various other information designed to help you make better business decisions.

Other features exist, (such as clicking on a patient in the dashboard. You will instantly navigate to that patient to view details.) And an alert will let you know when supplements are low.

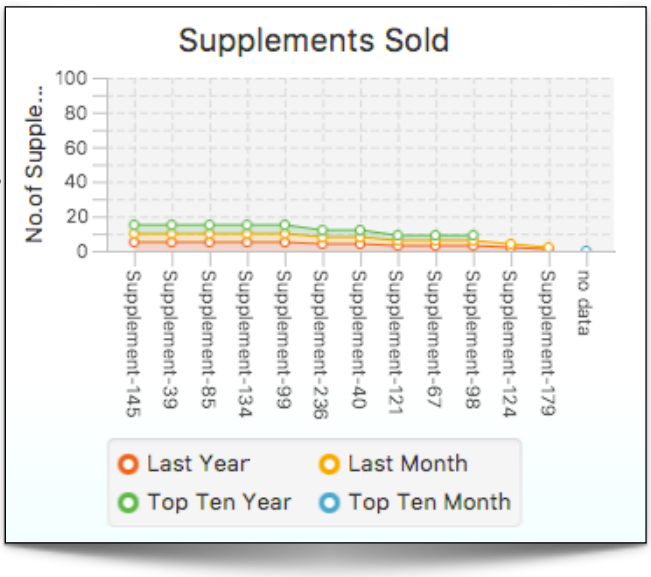


Figure 4. Dashboard Patients / Supplements

5.0.2 - Advanced Features

- When creating an invoice, the admin or Management can change the prices of supplements before saving them to the invoice. This feature is not available to regular user. This means the prices will reflect on the form, and you can either leave the prices as is, or change to a new price.
- You will be able to add as many supplements to the invoice as you please, and change the pricing before saving the invoice.
- You will be able to Download the invoice at any time as a PDF file.

Installation manual

Installation Manual

Enlightened Health Alternative

Stock System Desktop Software

Software v1.01 - 01 October 2018

Preface

This software guide is intended for EHA administrators and users who want to successfully perform a clean install of all the software packages necessary for production, and correctly configure the system for use.

For detailed instructions on how to use all the features of this system, please refer to the accompanying manual ie. User Manual - EHA StockSystem Software v1.0

Table of Contents

1.0 - Introduction

1.1- Overview of the System

In order for the EHA Stock System software to work as intended, the following software first needs to be downloaded, installed, and configured.

- Windows 7 Operating system with at least the minimum hardware and software requirements met.
- The latest version of Java to be downloaded and installed
- Database and Server Software: The latest version of WAMP to be downloaded and installed on your computer.
- Database replication software: Install and configure SymmetricDS software, this will manage the replication of data between the offline and online database.
- Finally, the EHA Stock System software needs to be installed. Once all the previous steps have been completed, this software will be able to run with no extra configuration necessary.

1.2 - How to Use This Document

This document describes the entire installation process for the EHA Stock System Software starting from scratch. This document covers all aspect of it's installation including all various other software needed, and how to deploy the services on your machine. When installing the EHA Stock System Software, you are encouraged to follow the order of this document. In some cases certain software needs to be installed and configured before other software will work correctly.

1.3 - References

- https://support.microsoft.com/
- https://www.java.com/en/
- http://www.wampserver.com/en/
- https://www.symmetricds.org

1.4 - Overview of the Manual

7. Section 1 Introduction: A General overview of this document
8. Section 2 Operating System Requirements: Necessary hardware and software for the system to work
9. Section 3 Java Install : How to install and configure Java on the Operating System
10. Section 4 Database and Server Installation: Install and configure WAMP (This includes Apache, Mysql and PHP server software)
11. Section 5 Database Replication Installation: Install and configure SymmetricDS software
12. Section 6 EHA Stock System Desktop Software: Install the EHA Software on the computer

2.0 - Operating System Requirements

2.1 - Operating System

Please ensure you have your Windows 7 Operating System installed and have updated your Operating System to the latest updates before you install the EHA system software.

You will need the following to meet the minimum requirements to run Windows 7 and run this software:

- 1 gigahertz (GHz) or faster 32-bit (x86) or 64-bit (x64) processor*
- 1 gigabyte (GB) RAM (32-bit) or 2 GB RAM (64-bit)
- 16 GB available hard disk space (32-bit) or 20 GB (64-bit)
- DirectX 9 graphics device with WDDM 1.0 or higher driver
- Latest Windows 7 Updates from microsoft.com
- Internet Access
- Latest version of a web browser(Google Chrome, or Firefox, etc)

3.0 - Java JRE

3.1 - Java Runtime Environment

The Java Runtime Environment (JRE) is what you get when you download Java software. The JRE consists of the Java Virtual Machine (JVM), Java platform core classes, and supporting Java platform libraries. The JRE is the runtime portion of Java software, which is all you need to run it in your Web browser or on your computer.
Running Java allows the EHA Stock System Software to run on any Operating System with future updates, but for this version only Windows 7 is supported.

Steps to install and configure Java Runtime Environment:

Steps to complete:

1. Download Java
2. Install Java
3. Configure Java

1. Step 1 - Download Java

Go to the java website and download the latest version of the Java Runtime Environment. The latest version at the time of this document is: Recommended Version 8 Update 181. And it can be downloaded from https://www.java.com/en/download/

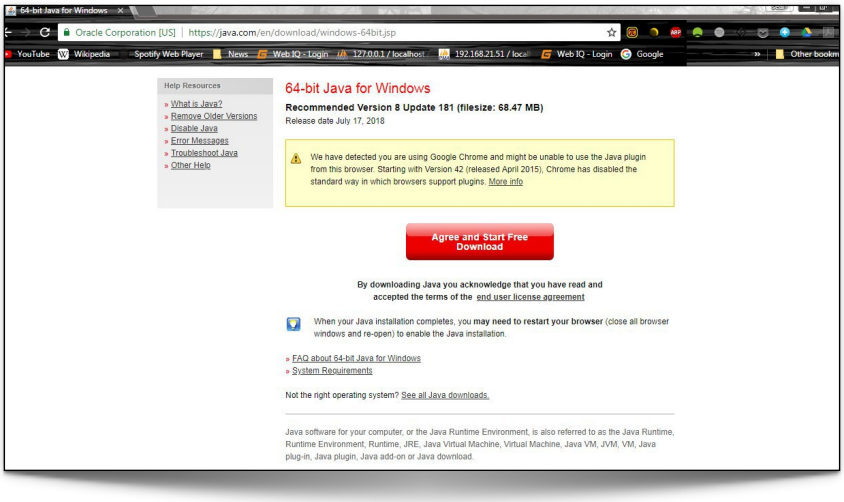


Figure 1: Java download page on www.java.com

2. Step 2 - Install Java

Once download is complete, locate and run the installation file. It will most likely be named similar to this - jre-8u181-windows-x64.ewe

Figure 2: Start Installation of java

You will be prompted to change or leave the destination as is. You can leave it as is and click install, follow the prompts until installation is complete. Once complete you can verify your java installation by going to this link: https://java.com/en/download/installed8.jsp

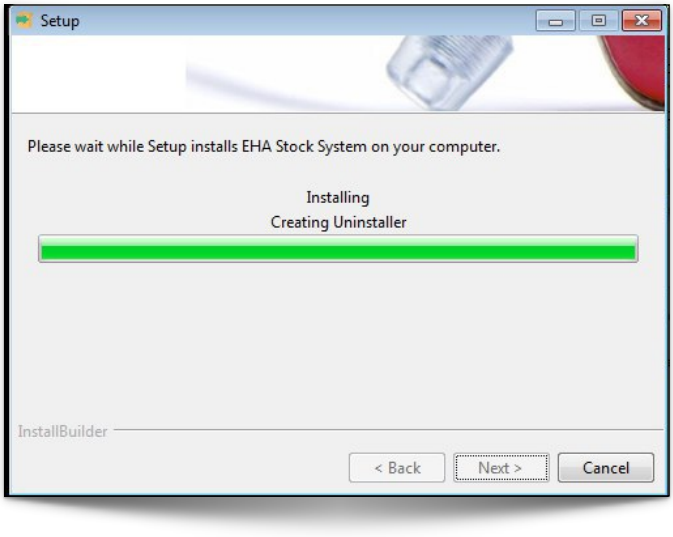


Figure 3: Completing Java Installation

3. Step 3 - Configure Java

You should now be able to access the Java control panel located in the taskbar. Click start bar, Go to the control panel, go to the security tab, and check Enable Java content at the top of the screen.

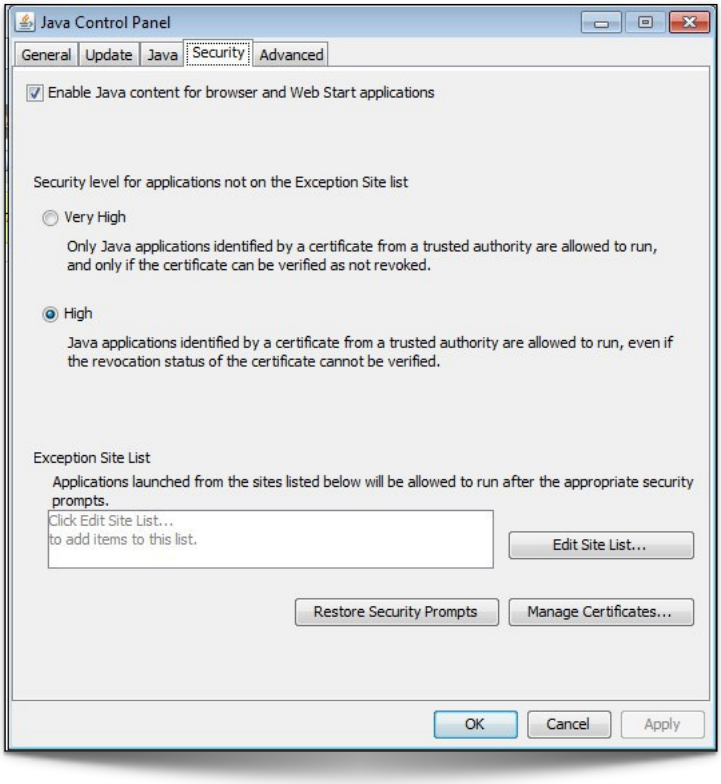


Figure 4: Java Control Panel

4. Make sure your browser has allowed java to run. If not, go to your browser settings, and manage add-ons. Click Toolbars and extensions, and set allow java to on.
5. Once installed, you can check the installation by clicking on the start menu, and then go to all programs, then Java, then click on configure java - this will open the Java control panel.

You have now installed and configured Java.

4.0 - Database and Server

4.1 - WAMP Environment (Apache, MySql, PHP)

WampServer is a Web development platform on Windows that allows you to create dynamic Web applications with Apache2, PHP, MySQL and MariaDB. WampServer automatically installs everything you need to run a native version of the EHA Desktop software on your system. You will be able to change your server settings without even touching its setting files. WampServer is available for free (under GPML license) in both 32 and 64 bit versions.

Steps to install and configure WAMP Server on Windows 7:

Steps to complete:

1. Download Wamp
2. Install
3. Test
4. Configure

1. Step1 : Download Wamp

Before doing anything you need to download WAMP from the link http://www.wampserver.com/en/#download-wrapper
You will have the option to choose wither a 32 or 64-bit environment depending upon your computer's configuration. In addition to Apache, PHP and MySQL this download includes phpMyAdmin .

2. Step 2 : Install the Software

Once you have downloaded the WAMP then double click on the setup and you will need to go ahead and launch it to start the installation process.

Figure 5: Wamp Setup Wizard Start

When you will click the next button then you will be asked to accept the license agreement. Click accept. Then select the folder where you would like to install your WAMP server. The default will be **c:\wamp** however you can change this to install the server into any directory or partition you choose.

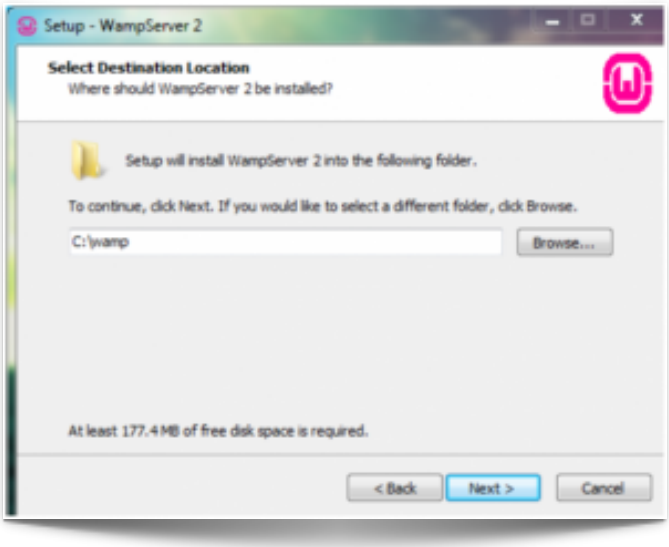


Figure 6: Wamp select Destination folder to Install

After you choose your directory you will have the option to setup icons. Once you decide on this click the Next button and then confirm the installation settings by clicking Install.
Once the installation runs its course you will be asked to choose your default browser. Internet Explorer is the default choice but you can navigate your way to any other browser of your choosing.
(if your Windows firewall pops up at this point make sure to grant Apache access).
Next is to set up the smtp and PHP mail parameters. You can leave this set to the defaults. click **Next**.

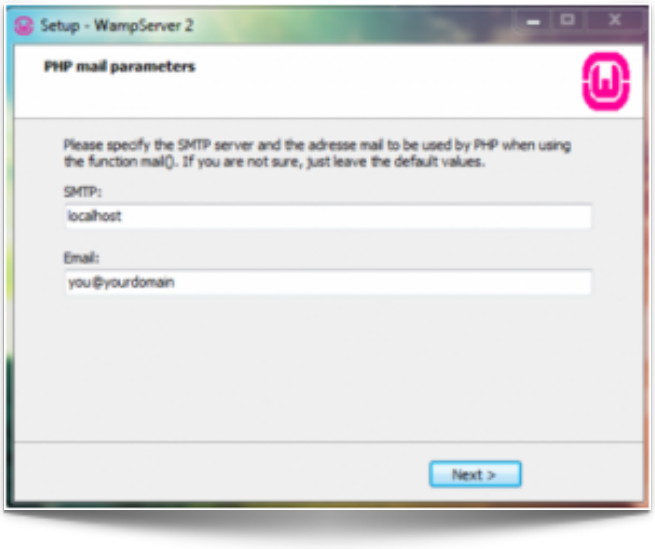


Figure 7: Wamp server : Set localhost smtp settings

Congratulations, WAMP Server is now installed on your local computer.

3. Step 3 : Test the Installation

The WAMP management console

Navigate the below steps to the Management console :
Start –> All Programs –> WampServer –> start WampServer, you can launch the management console. Once opened, it will appear in the lower right hand side corner of your screen.

If WAMP is not started go ahead and click Start All Services. If you are not sure whether or not WAMP is running, look for the small green W icon in your toolbar. If it is red, WAMP services are stopped, green means everything is running while orange means some services are running. Most likely first time use will require you to install the apache service manually.

- To install the service manually, go to the control panel at the bottom of the screen, click on Wamp, then scroll to apache, then scroll to Serviceapache64, then click install service.
- This will start the installation of the apache service. You will be prompted to install - confirm and the installation will be instantaneous.
- Check the logo, it should now be green.

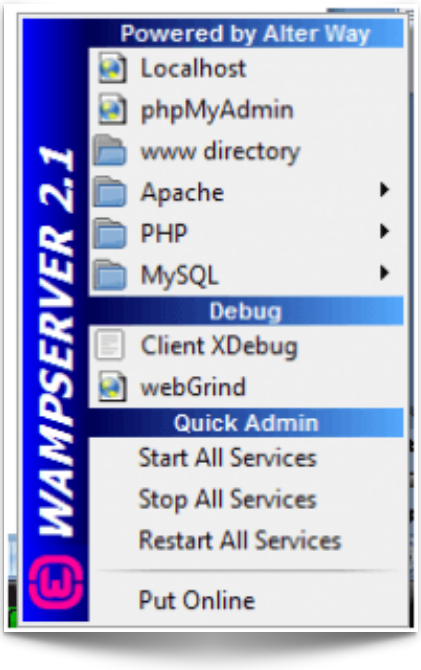


Figure 8: Wamp Management Console

Now we want to test to see if everything was installed correctly.
In the WAMP management console, click on Localhost. If you see the following screen pop up in your browser then everything is working!

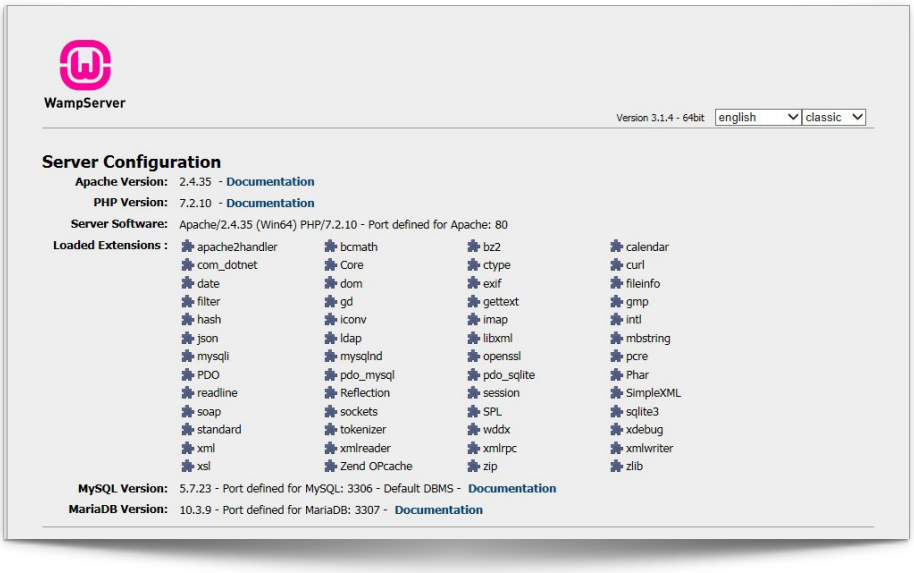


Figure 9: Wamp Console in Browser - Working!

4. Step 4 : Configure phpmyadmin (Install the Database and add users)

Click on the phpmyadmin link or type localhost/phpmyadmin on URL then you will get the interface of phpmyadmin like below :

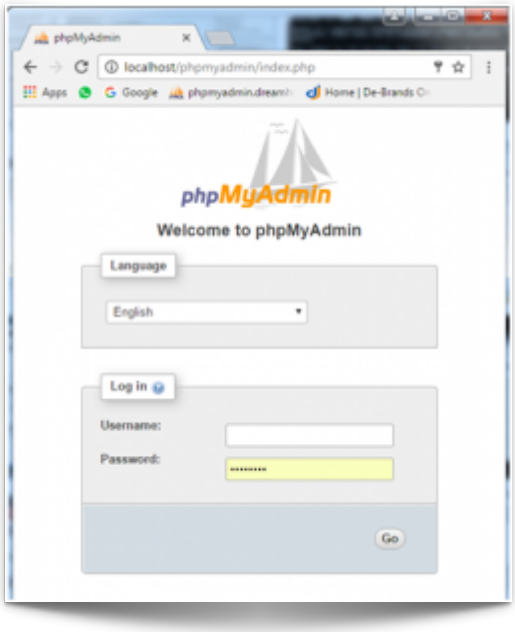


Figure 10: PHPMyadmin login screen

Insert root in the username and enter the password that you filled at the time of installation (also root) then click on the go button you will be redirected to the phpmyadmin dashboard. You are now ready to configure PhpMyadmin and install the EHA Database.

Setup The Database

Once logged in, Navigate to the home page of phpmyadmin.
On the left side panel - at the top, click new.

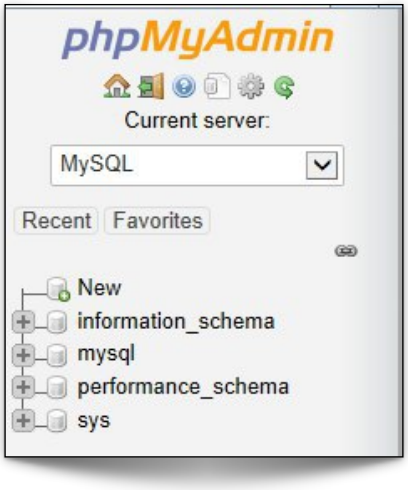


Figure 11: phpmyadmin database view

Type in the database name as EHA_Database, and at collation scroll down to utf8 and select utf8_general_ci.
Click Create.

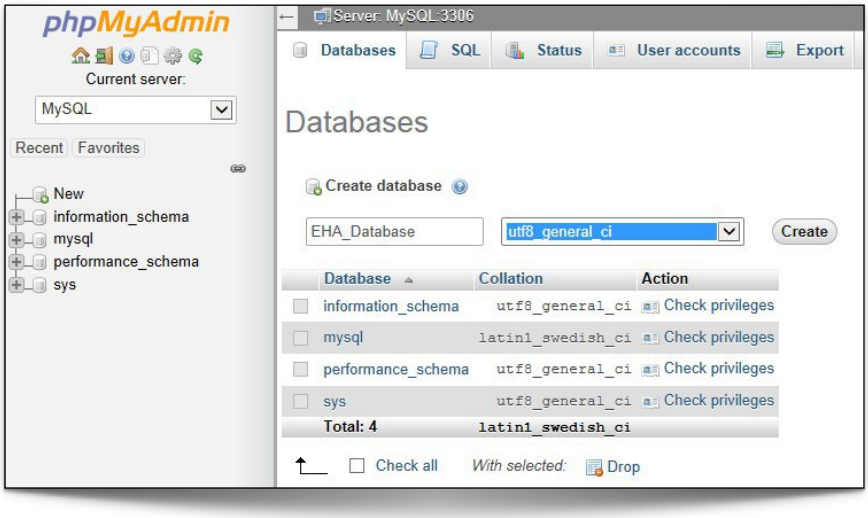


Figure 12: phpmyadmin create new database

This creates an empty database.
Now click on this database in the left side panel, and then go to the middle- top of the screen and click import.
It should now say Importing into database "EHA_Database".
Go to browse your computer, click browse and select the EHA_Database.sql file (you received this with the installation package) .
Make sure the character set is set to utf8. Click go.

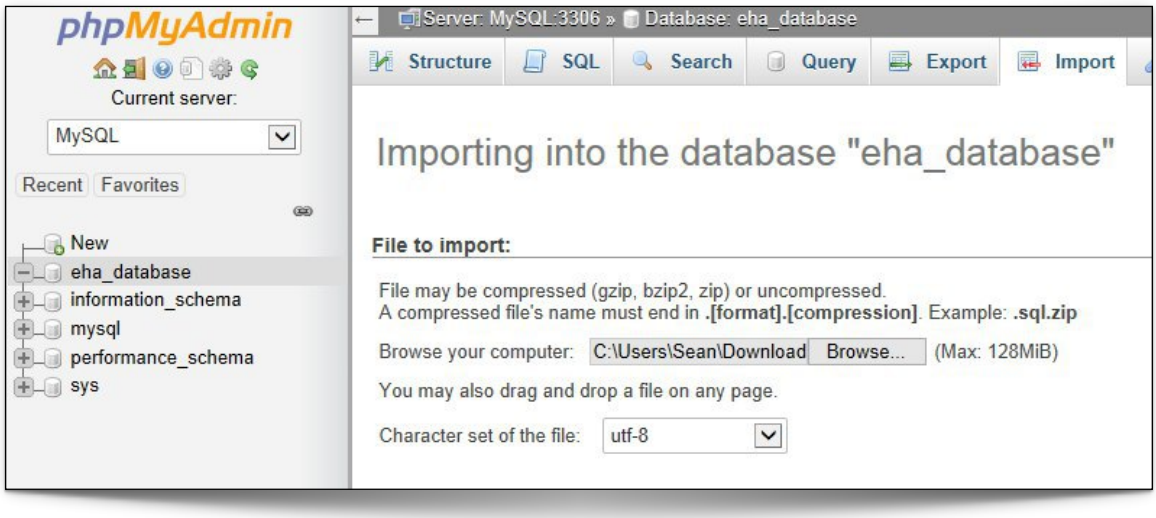


Figure 13: phpmyadmin import sql file

The database should now be imported and you should see a green bar confirming this. (A pink bar means something might have gone wrong and some aspects of the database might not have copied properly)
Navigate to any of the tables on the left, and you should be able to see data in the fields.

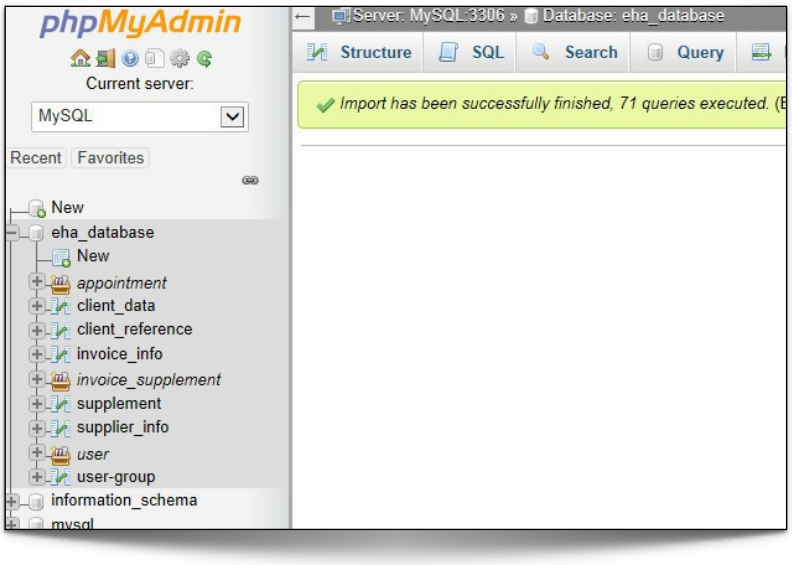


Figure 14: phpmyadmin database tables after import

Add Users

Add users to the database in the user table, they will require a username and password to login to the system.

The database is now successfully setup.

5.0 - Database Replication

5.1 - SymmetricDS (Auto replication and database sync)

SymmetricDS is open source software for database replication, with support for one-way replication, multi-master replication, filtered synchronization, and transformations. Using web and database technologies, it can replicate data asynchronously as a scheduled or near real-time operation. Designed to scale to a large number of databases and operate between different platforms, it works across low-bandwidth connections and can withstand periods of network outage.

Steps to install and configure SymmetricDS:

Steps to Complete:

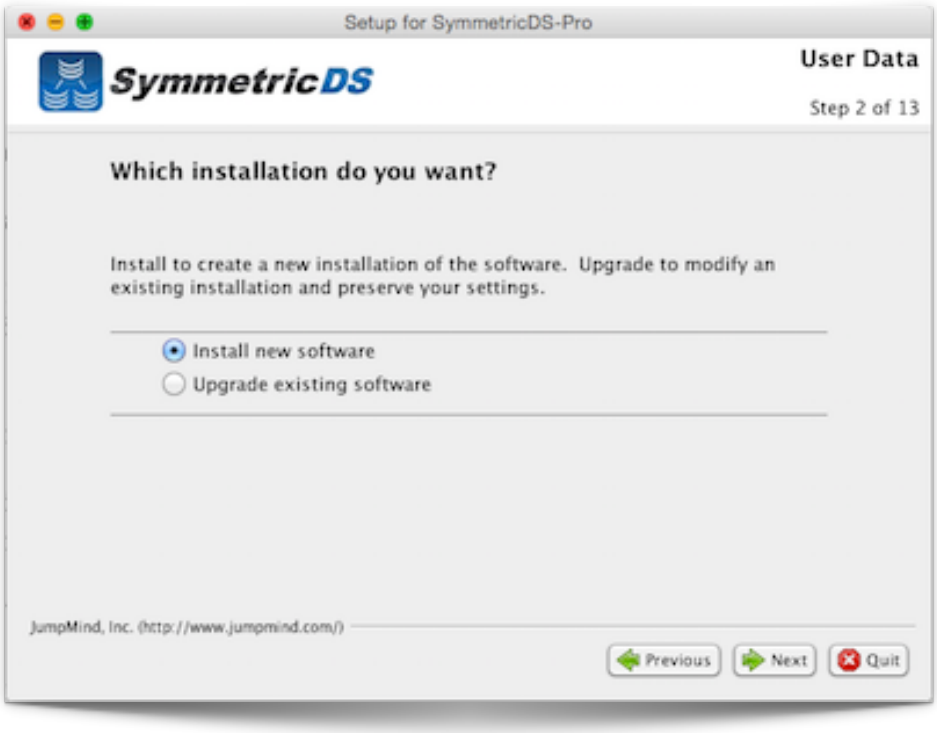
1. Install SymmetricDs Standalone Application
2. Add as a Node (configure)

To continue, Make sure the db setup is completed. A database is needed to initialise the db sync!

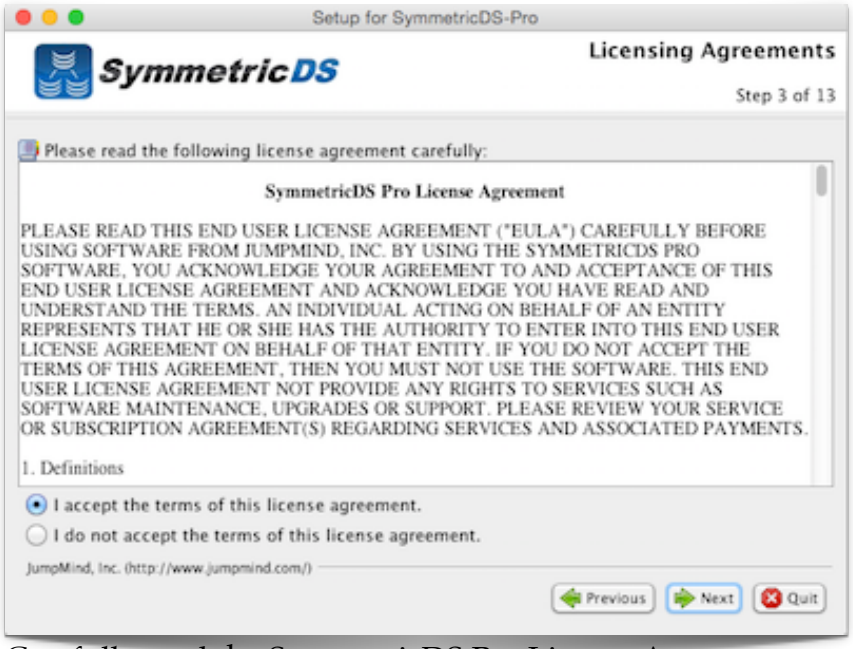
1. Step 1 - Install SymmetricDsPro

The SymmetricDS installer is an executable jar file named **symmetric-pro-<version>-setup.jar**. In order to run the installer, you must have the Java Runtime Environment (JRE) version 6.0 or newer installed. Start the installer by *double-clicking* it (if the JRE is in your path and associated with .jar files), or by running it from a command prompt, like this:
java -jar symmetric-pro-<version>-setup.jar
The default installation will run in graphical mode, but it can also be run from a command window by adding the `-console` argument on the end of the command.

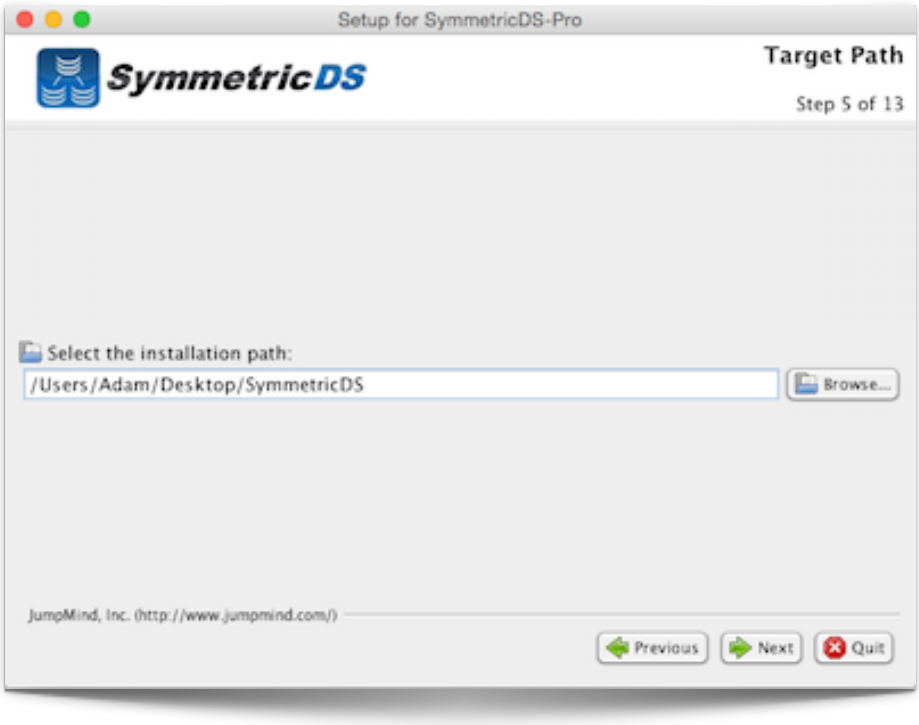
The first screen is a Welcome screen that includes the SymmetricDS Pro version number. The installer will ask a series of questions before writing files to disk.
To begin selecting installation options, click **Next**.



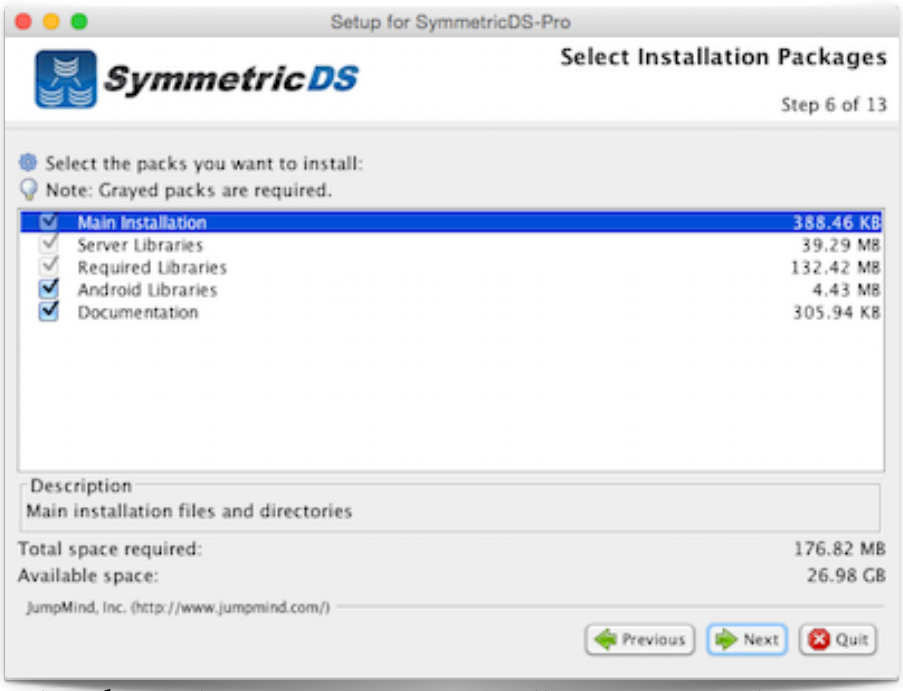
Specify whether you want to install a new version of SymmetricDS for the first time (*Install new software*) or upgrade an existing version of SymmetricDS that was previously installed (*Upgrade existing software*). For upgrade, the existing installation of SymmetricDS or SymmetricDS Pro is verified before continuing.
Select the appropriate option and click **Next**.



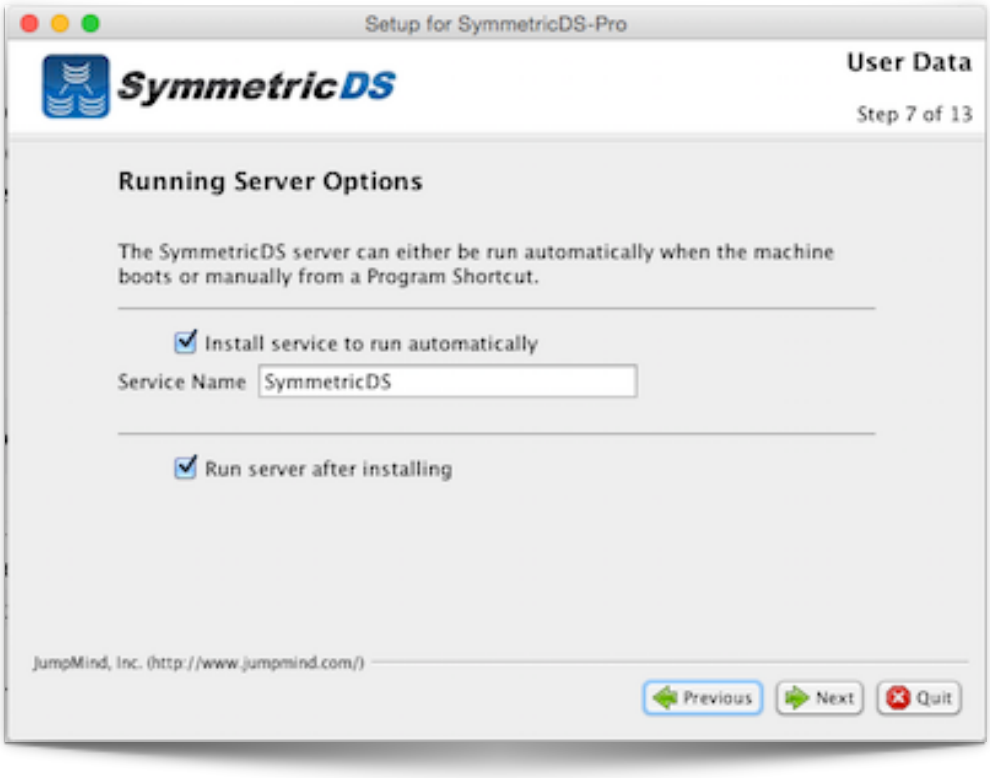
Carefully read the SymmetricDS Pro License Agreement.
If you accept, select I accept the terms of this license agreement and click **Next**.



Choose the installation path where SymmetricDS will either be installed or upgraded. If the directory does not already exist, it will be created for you. Make sure your user has permission to write to the file system.
After entering the directory path, click **Next**.



Select the packages you want to install and verify disk space requirements are met. By default, all packages are selected. If you are NOT integrating SymmetricDS with Android, you can unselect the Android package.
After selecting packages, click **Next**.

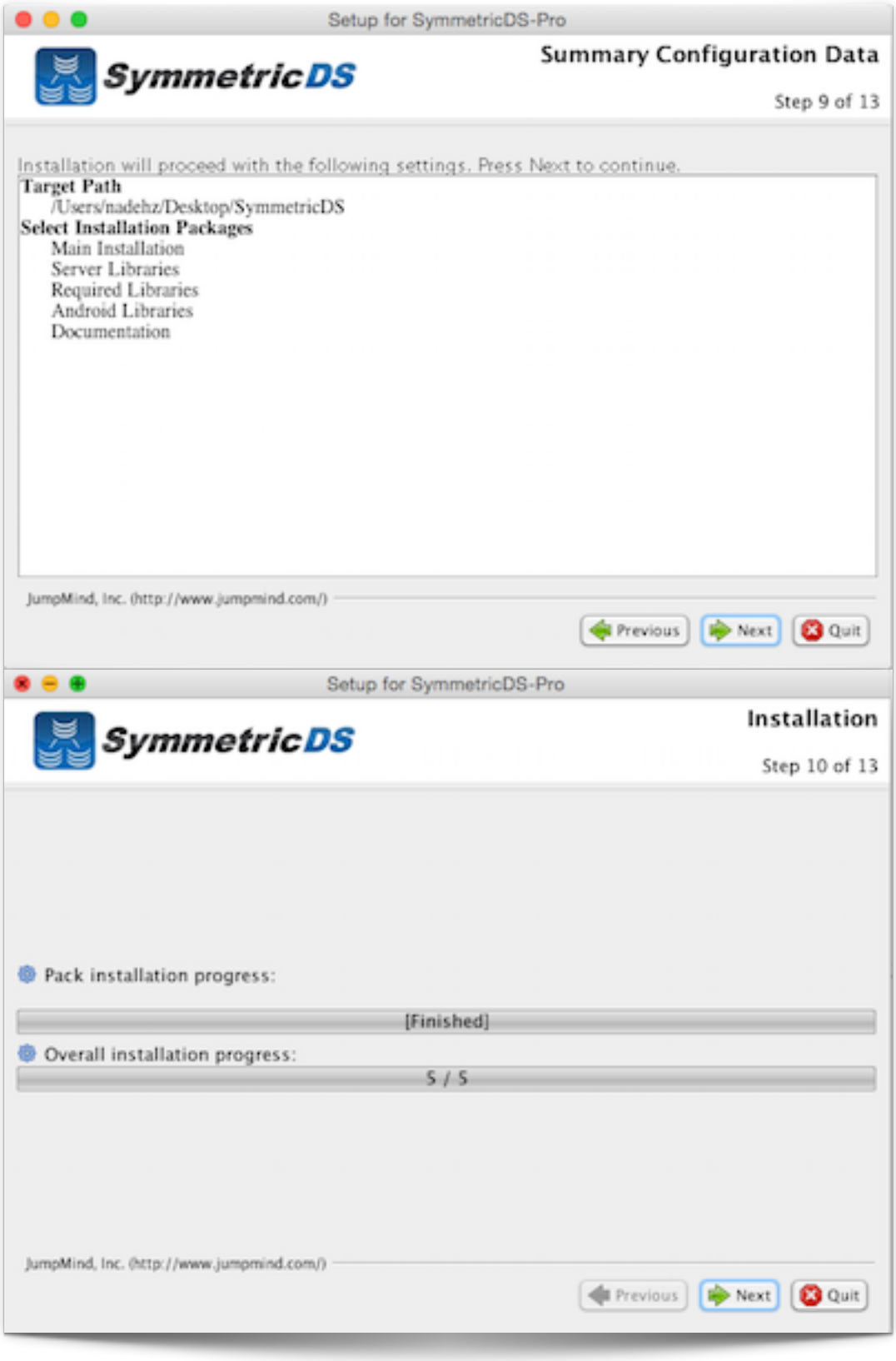


A standalone installation can either be run automatically by the system or manually by the user. Select the *Install service to run automatically* checkbox to install a Windows

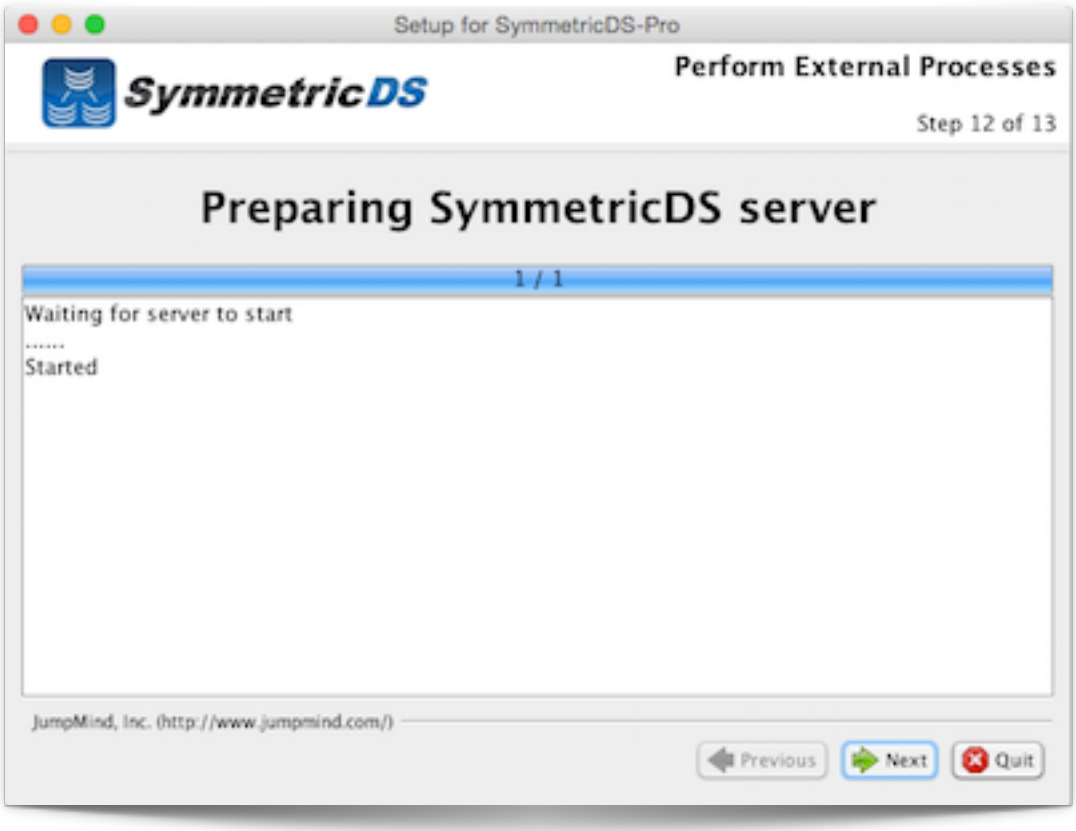
service or Unix daemon that will start SymmetricDS when the computer is restarted. The service can installed or uninstalled later using the Control Center or command line. Select the *Run server after installing* checkbox to also run SymmetricDS after installation so it can be used immediately.
After selecting options, click **Next**.

For standard synchronization and web console access over HTTP, select the *Enable HTTP* checkbox. For encrypted synchronization and web console access over HTTPS, select the *Enabled SSL* checkbox.
The Java Management eXtensions (JMX) are a set of server properties and operations that can be used to manage the server. To enable a simple web console for JMX, select the *Enable JMX* checkbox. To enable remote access for JMX clients like JConsole and bin/jmx, select the *Enable JMX Agent* checkbox.
After selecting options and specifying unused ports, click **Next**.

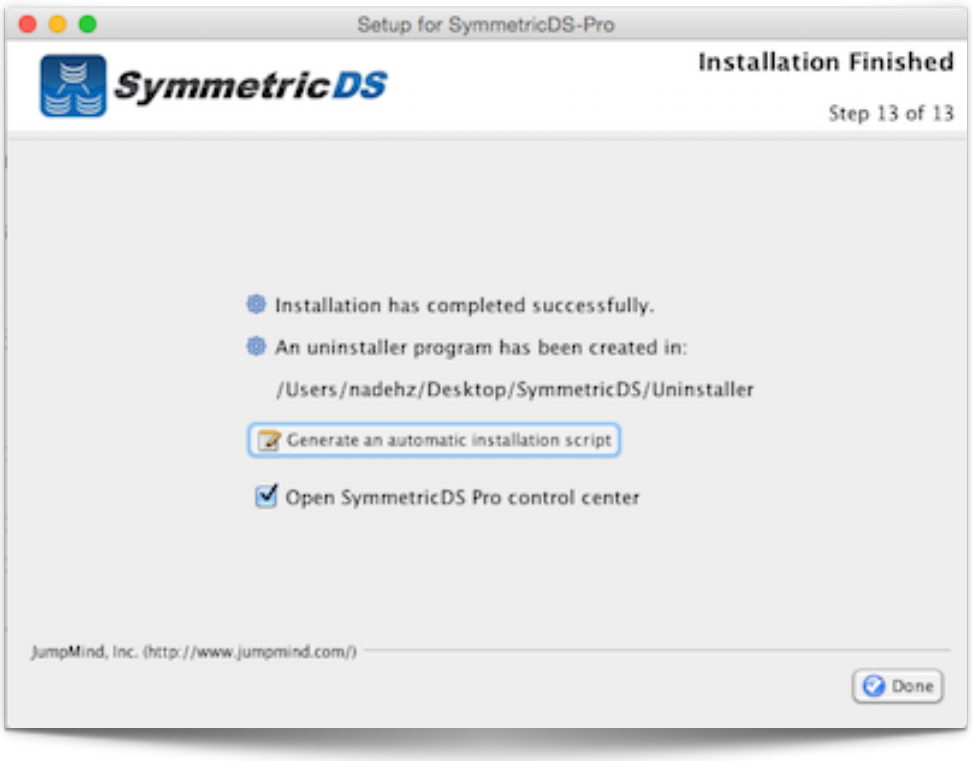
Confirm your installation settings and click **Next** to begin the installation.



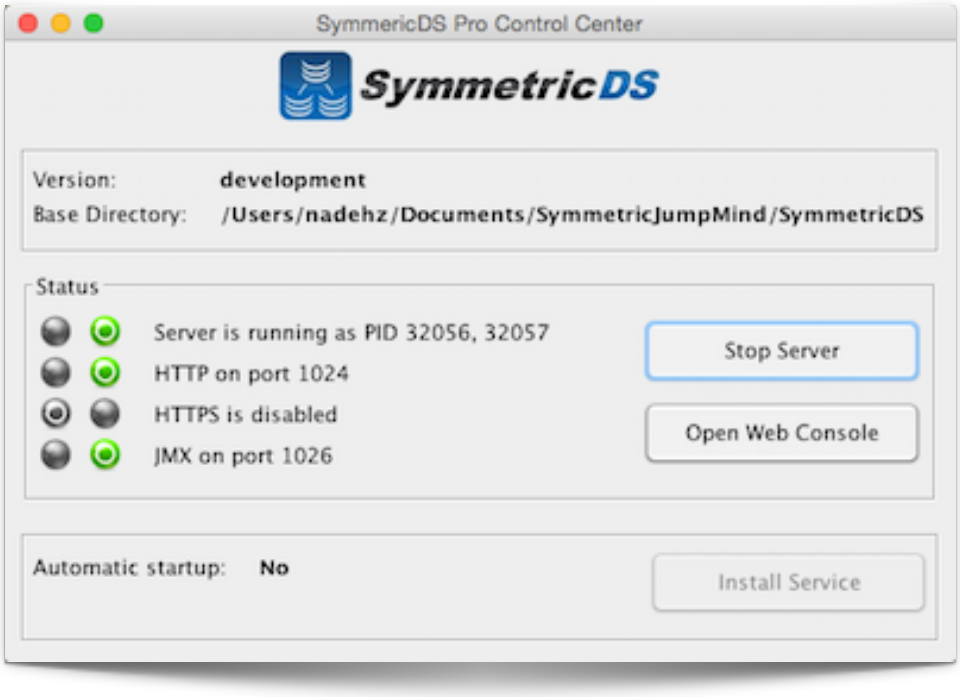
After SymmetricDS finishes installing, click **Next**.



If you chose the option for the server to start after installation, wait for it to start and then click **Next**.



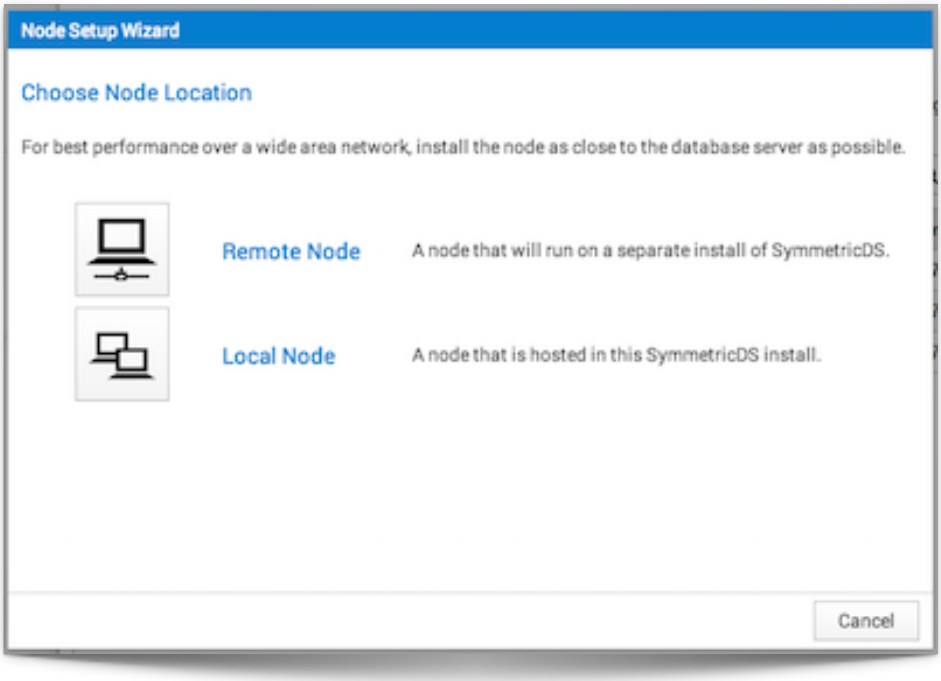
The installation is now complete. Choose if you want to open the SymmetricDS Pro Control Center where you can view the server status and open a web console.
Click **Done** to exit the installer.



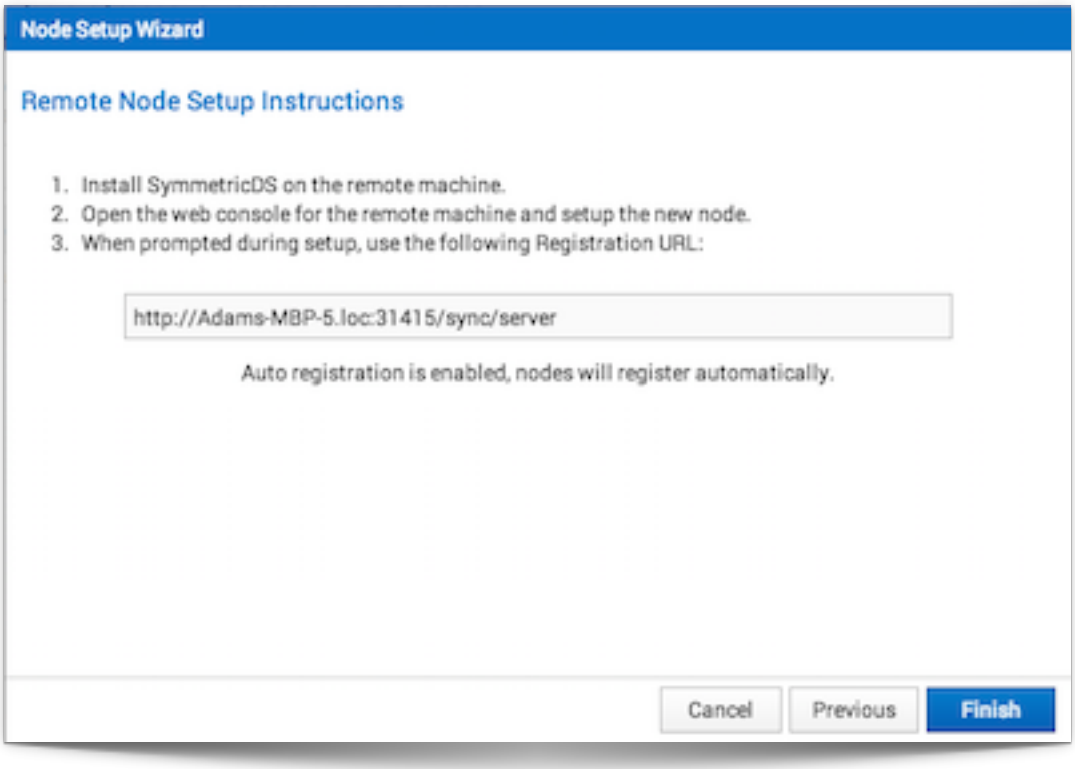
From the SymmetricDS Pro Control Center, you can start/stop the server, open the web console, and install/uninstall the service.
To begin configuration of SymmetricDS, check that the server is running, and then click **Open Web Console**.
http://Seans-MacBook-Pro.local:31415/sync/server

2. Step 2 - Add This installation as a node

Multiple nodes can be hosted in a single SymmetricDS instance. SymmetricDS will start a node for each properties file it finds in the engines directory. Multiple nodes can be hosted in a single SymmetricDS instance. SymmetricDS will start a node for each properties file it finds in the engines directory.
Add nodes to your synchronization scenario by using the Node Setup Wizard. This wizard is automatically shown when less the 2 nodes are configured. It can also be accessed from the Manage Nodes screen by clicking the **Add** button.

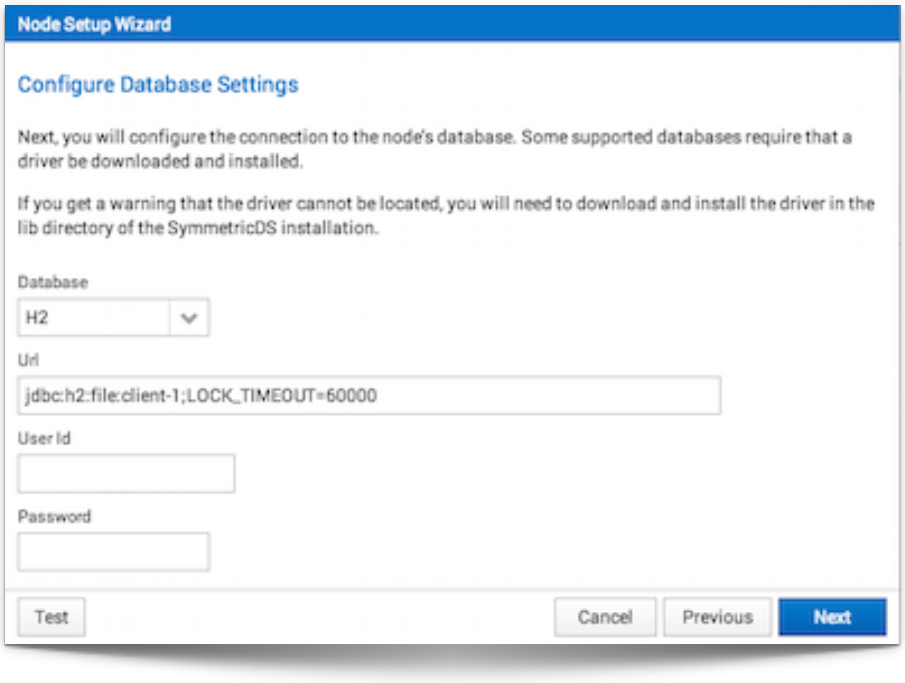


Choosing node location



The registration url shown on this screen above will be used by the remote node during its installation process in order to properly connect to the SymmetricDS network.
Please enter: http://Seans-MacBook-Pro.local:31415/sync/server
as the Registration url.

Database Setup

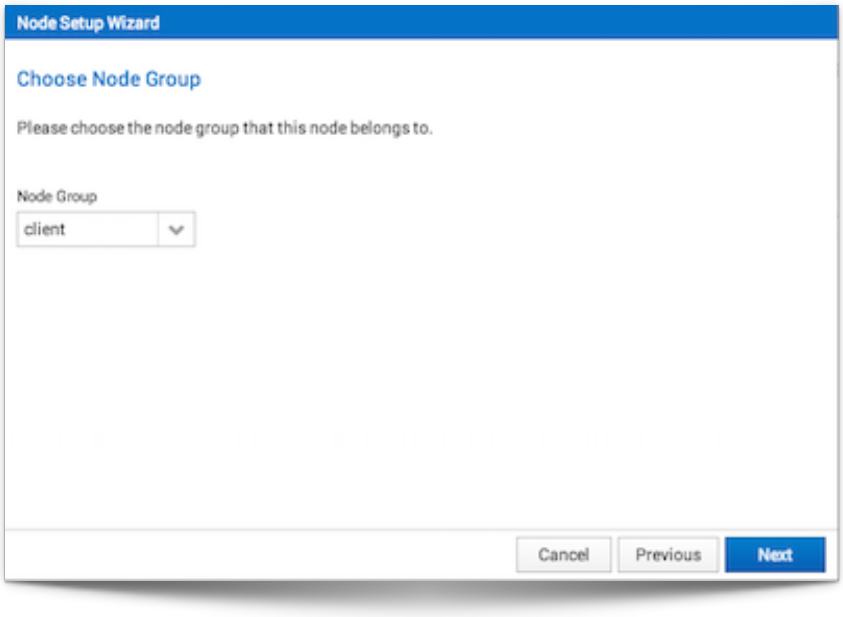


Provide database credentials to connect the node to a database.
After selecting a database type the jdbc url will be populated for you based on the driver. Be sure to replace host name, port, and database name if necessary (varies by type).

Please enter the following in these fields:
Database: MySql
Registration URL - jdbc:mysql://localhost/eha_databse?tinyInt1isBit=false
userid = root
password = root

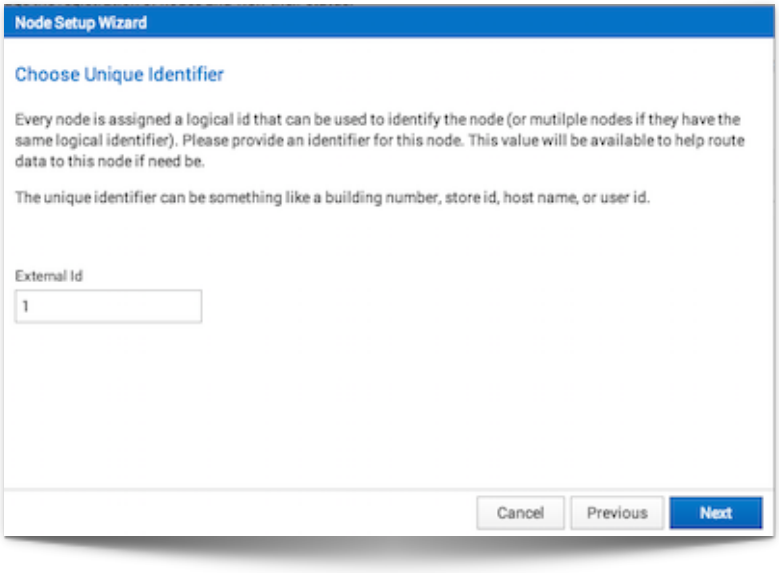
Click Test, to see if database connection is successful.

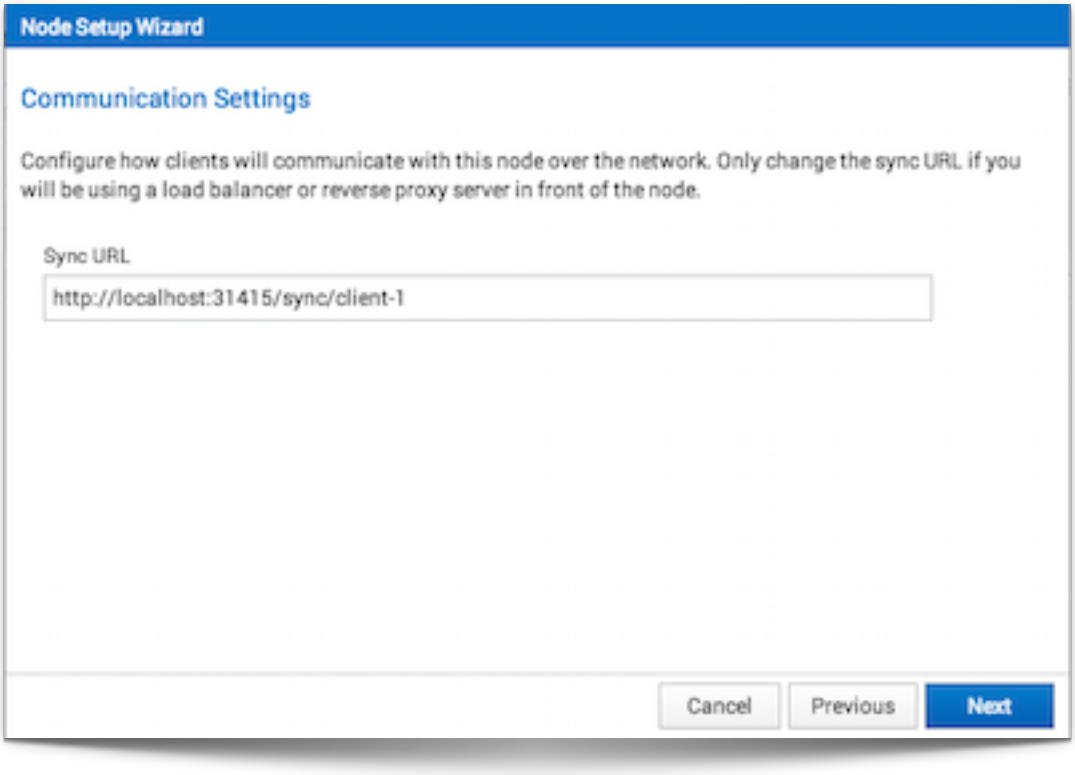
Node Group



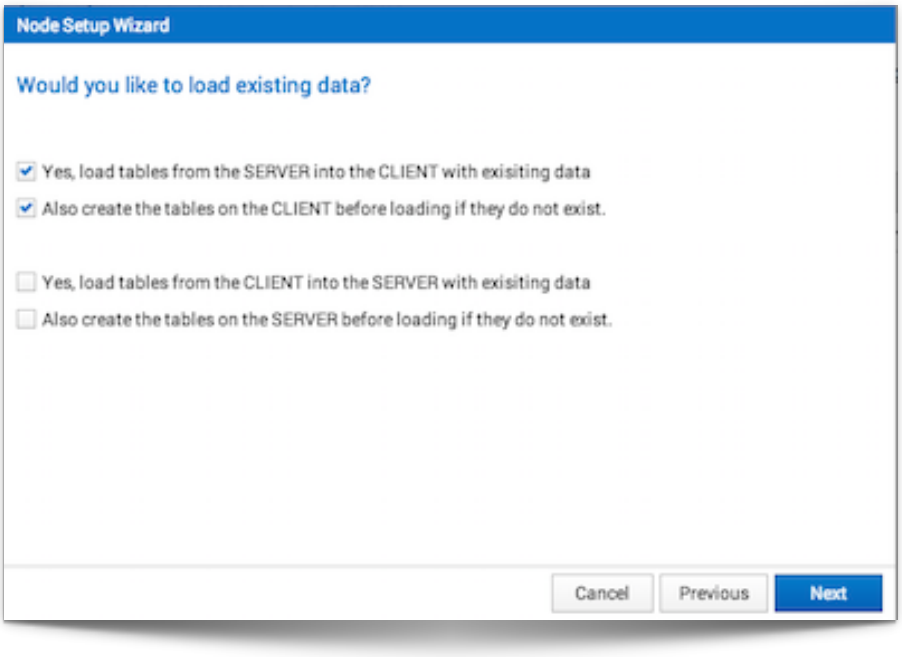
Provide the registration url in order to register the node on the SymmetricDS network.
This url is the sync url of the Master Node:
http://Seans-MacBook-Pro.local:31415/sync/server

As the Node group, please enter: slave.
The list of groups will be provided from the Master Node.
A new group can be typed in though if the desired group is not present.
External ID = 0002
This is a unique identifier for the node.
(In our case : 002)

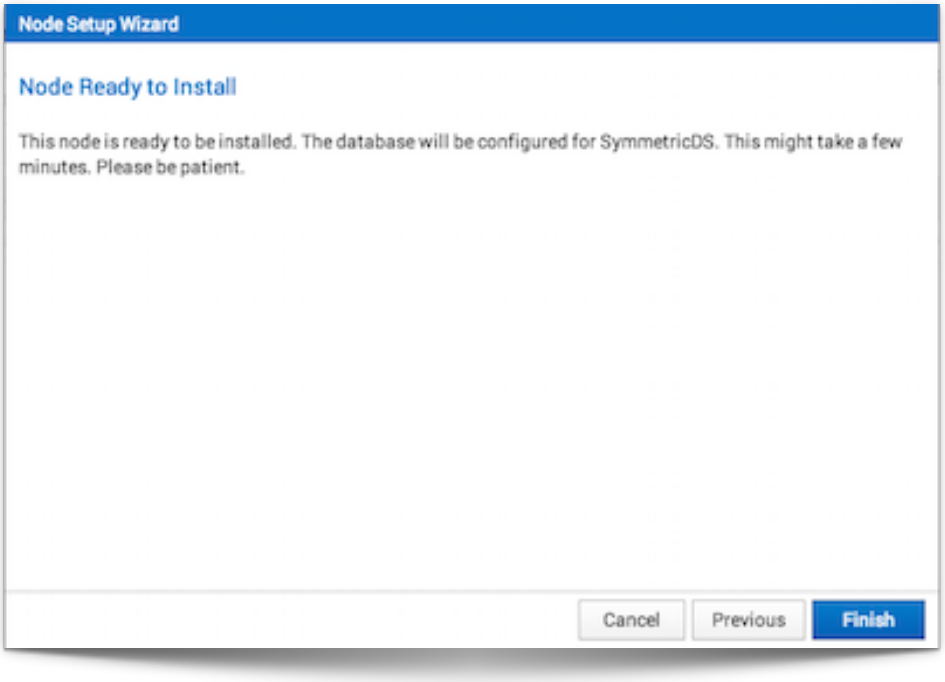




If your network will be accessing the web console through a proxy or a different host name that the one shown in the first bullet you can override the hostname to be used. You can also select HTTPS or HTTP to be used for transferring data.
Load Existing Data



Often when new nodes are connected for synchronization they need to be initially loaded with existing data before synchronization was in place.
You can also indicate if you wish tables to be created in the new node as part of the initial load process if they do not already exist.
Finish



The node is now ready to be installed.

SymmetricDs will attempt to sync the server and slave installations

6.0 - EHA Stock System Software

6.1 - EHA Desktop Stock System Software

EHA Stock System is an application that allows collecting and managing information of the EHA Supplement Stock, EHA Clients, Invoices, appointments, and EHA Supplement Suppliers. The application provides an easy and user-friendly way to manage information.

Steps to install and configure EHA Stock System Software:

Steps to Complete:

1. Install
2. Run

Make sure the database is installed and working correctly before attempting to run this software!

1. Step 1 - Install EHA Stock System Software

Locate the installation file named ehaStockSystem.exe, and run it.
Follow the installation package prompts.
You will be prompted to choose a destination folder, you can change this to a destination of your choice, or you can leave it as is. Click next.
Once installation is complete click finish.

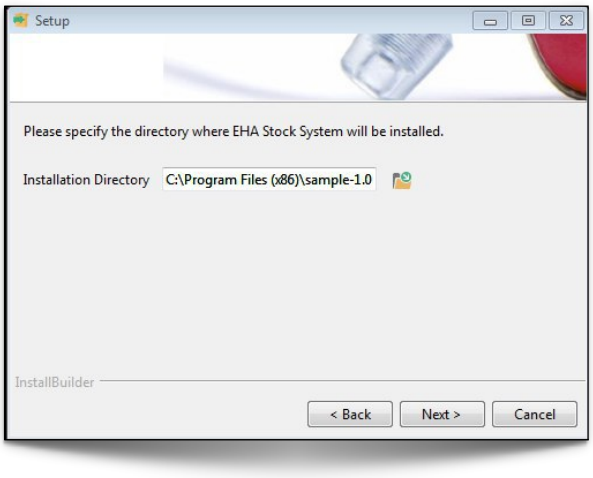


Figure 15:EHA software installation

2. Step 2 - Run the software

3. Go to the taskbar and go to EHA StockSystem folder, click on EHA Stock System.exe to run the application.

If there are any complications with the application, or problems with installation, or if you wish to delete the application for any reason, go to the taskbar, find EHA StockSystem folder, in here you will also find uninstall.exe. Run this to uninstall the EHA application at any time.

7.0 - Additional information

For additional information and help, please refer to the following:

Windows 7

If you have any problems with the windows installation, you can re-install operating system as a clean install. You can follow the steps by going to this web page:
https://www.wikihow.com/Install-Windows-7-(Beginners)

Java

Follow this link for more information and help regarding Java download and install:
https://www.java.com/en/download/help/index_installing.xml

And this link for more info about Java in General:
https://go.java/index.html?intcmp=gojava-banner-java-com

WAMP

Follow this link to get more information about installing WAMP :
https://allinonetuts.com/install-wamp-server-windows-7/

And this link for more information about WAMP server:
http://www.wampserver.com/en/

SymmetricDs

Help with Installing SymmetricDs Software:
https://www.symmetricds.org/doc/3.9/html/user-guide.html#_installation

EHA Stock System Software:

User Manual:
EHA StockSystem Software v1.0