INTEGRATED SCHOOL HEALTH PROGRAMME

Electronic Record Mobile Application

User Guide & Technical Specification







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Introduction

This document provides a summary of the operation of the Integrated School Health Programme Electronic Record Mobile application, Web Application and Technical specification for setup and configuration of the database server.

The mobile application core features are the addition of new students into the database which is stored on the mobile device, as well as completing the desired questionnaire per student.

The web application core features which are provided for system administration are to allow the system administrator the ability to maintain user access and roles on the application, maintain locations, clinics and schools within the integrated school health programme. System administrators also have the ability to add and modify questionnaires for counselling sessions and evaluations. Users in the field are also able to download the offline android application directly from the web application to their android device.

This document also has a brief description of how to setup the application on Microsoft Internet Information Server (IIS) and how to set up the Structured Query Language (SQL) database for the electronic mobile application.

Electronic Record Mobile Application

Download Offline Android Application

Users in the field are able to download the offline version of the electronic mobile record application as shown in figure 1 below, from the web application to their mobile device. Users are required to login to the web application, click on "Offline App Download" and then click on "Download" next to the ARM Build text. Users are required to accept all prompts including security on their mobile device until the application is installed. Once the application is installed users will be able to synchronise data for their session with the database server and then proceed with the questionnaire.

Figure 1



Application Landing Page

Figure 2

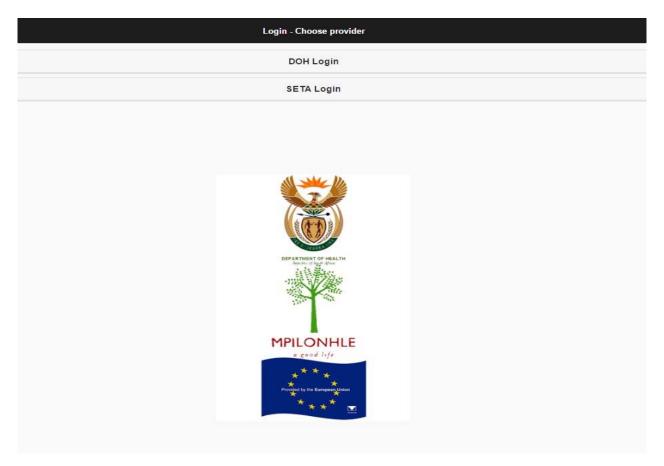


Figure 2 above is the application landing page which is the initial screen that loads when the mobile application is executed. At this screen the user has the option of logging into the SITA or DOH database.

Application Login Screen

Figure 3

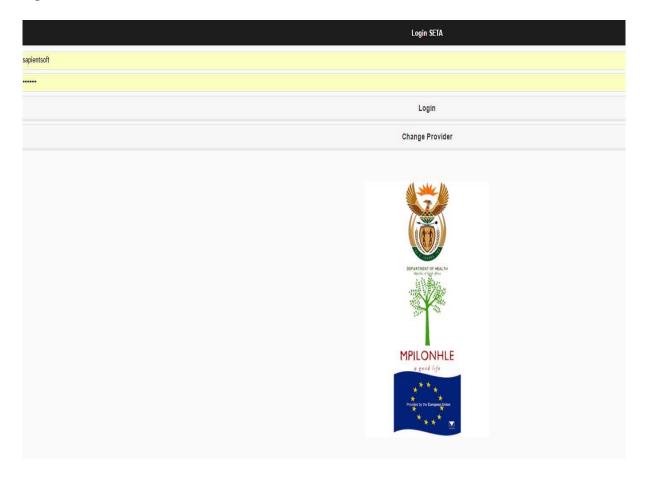


Figure 3 above is the application login screen where users are required to enter their logon credentials before accessing the application. The user can also click on "Change Provider" which will then allow them to select a different provider.

Once the credentials are authenticated and the user has logged into the application they are directed to the screen in figure 4 below. The user has the option of either synchronising data on the mobile device with the live database server, add a new student or proceed to the questionnaires screen.

Figure 4



Synchronising Data

When the mobile recording application is executed for the first time on the mobile device, the user will be redirected to the data synchronisation screen in figure 5 below, where they are prompted to synchronise with the database server and import required information for their session, and begin with the questionnaire.

Figure 5



Adding a New Student

Users can add a new student by clicking on the "Add a Student" button.

Figure 6



Users can perform a filter search of the school being visited by typing the school name in the "Filter" textbox field. Once the school is selected users can continue with capturing the student information. After capturing the student's ID number, the application will autofill the Date of Birth field and calculate the age of the student.

The process of adding a student involves a two-step validation process where when the user presses the "Next" button they will be prompted to re-enter the same information for validation, and will be prompted should the information recaptured not match. Once the student information is matched, the user can proceed to the questionnaire or simply just save the students information.

Starting a Questionnaire

When starting a new questionnaire for a student the user will first be prompted to select a questionnaire on the screen in figure 7 below.

Figure 7



Once the relevant questionnaire is selected, the user will proceed to the next screen in figure 8 below where they must select the school the student attends.

Figure 8



The user will then proceed to the screen in figure 9 below and select the student to beginning with the questionnaire. The user will go through a series of questions relevant to the questionnaire selected. Once all questions are completed the user should choose to end the questionnaire.

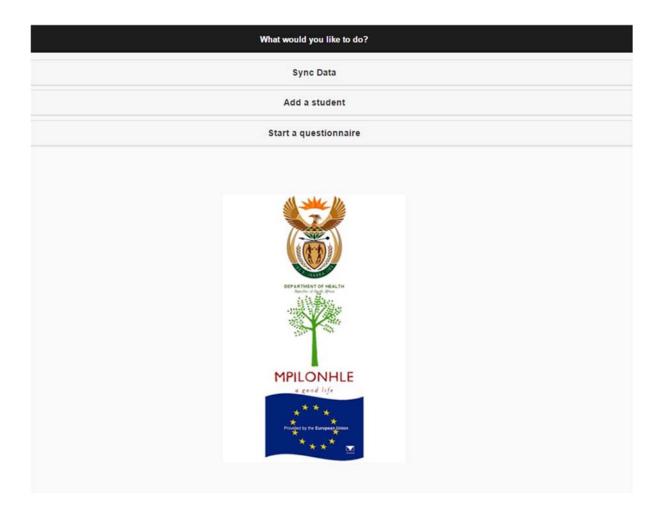
Figure 9



Exporting data from Mobile device to Database

Once all questionnaire sessions have been completed and the user wishes to export information stored on the mobile device to the database server, the user should return to the home screen in figure 10 below and click on "Sync Data"

Figure 10



Electronic Record Web Application

Accessing the Web Application

Access to the electronic record web application is achieved by connecting via an internet browser to the database server located at the Department of Health and arrive at the landing page in figure 11 below.

Figure 11



The web application is reserved for system administrators and offer the following functions.

- Admin users: is for system administrators to control how the system operates, who
 has access and roles within the application.
- Adding locations, clinics and schools where students reside
- Adding and editing questionnaires for counselling sessions and evaluations.
- Generating reports based on student's reports
- The ability to download the offline Android application onto an Android device

Once the system administrator's credentials are authenticated they are redirected to the web application is figure 12 below.

Figure 12



Web Application Menu Summary

Below is a listing of all the menu, sub-menu items and the functions that can be performed through the electronic web application.

Maintenance

User Management

The screen in figure 13 below allows system administrators to add, edit and delete users on the web application system. To edit user details, select the username from the list and edit their details.

Figure 13

Jsers:	C. STARCE AD	O NEW USCR							
Deer	Years	Identity%o	Contact	Work Details	Gender	Appr.	Last	ON .	ur
Rogeni	Mokuthula Moguni			coach Skills	Fenale	2			1
phat	Fhumelele Mthethwa			Counsellor	Fens.e				-
sapientsoft	Septent Software		glennésspientsoft.co.za	Admin		-		1	1
khumalo	excellent Abumalo			Coach	Fenale	12		-2	
richardd	richard			DoeSight	Fenale	2		0	1
96	Melisiwe Gloria Dlamini			Other	Fenale	12			2
lindar	linda rodriguez			DeeSight	Fenale	2		2	1
	Sibusiso Phakamani Elatshwayo			Coach Skills	Fenale	1		-	-
derricka	derrick mitchell			DoeSight	Fenale	2		-	1

To add a new user, click on the "Add new user" button and enter user information, role and login credentials in figure 14 below and click "Add User" to save.

Figure 14



Questionnaires

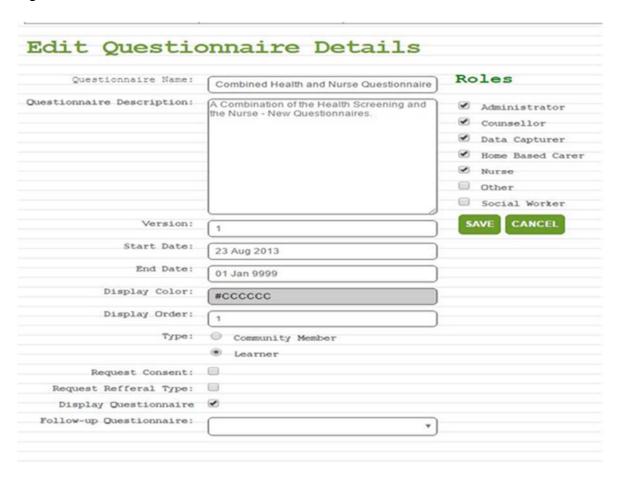
The questionnaires page in figure 15 below allows the system administrator to add, edit and delete questionnaires. System administrators also have the ability to modify questions and parameters of the questionnaires that are used for evaluation and counselling sessions in this screen.

Figure 15



To edit questions, click on the questionnaire name or the text that reads "Edit Questionnaire" in figure 15. You will proceed to the next screen in figure 16 below where you have the ability to edit details relating to the selected questionnaire.

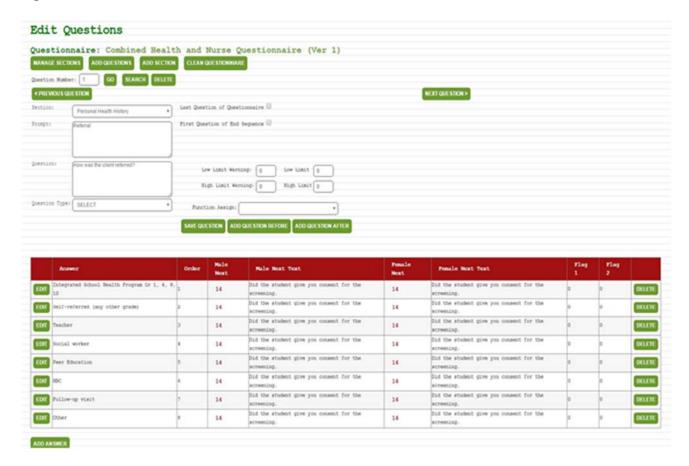
Figure 16



Editing Questions

Questions of a specific questionnaire can be edited by clicking on the text that reads "Edit Questions", see figure 15. You will then proceed to the next screen in figure 17 below.

Figure 17



The Edit Questions screen allows the system administrator to do the following:

- Add questions
- Edit questions
- Add functions to questions
- Provide a selection of answers to questions
- · Specify which question follows another

BMI Ranges

The BMI Ranges page in figure 18 below is used to maintain the BMI ranges that are used to determine BMI classification of a student. You can add, edit and delete BMI ranges.

Figure 18

	Ranges				
D NEW					
	Sex	Age	Upper Limit	Lower Limit	
Edit	f	19	26	18	Delete
Edit	£	18	25.75	17.75	Delete
Edit	F	16	24.75	17	Delete
Edit	m	14	22.75	16	Delete
Edit	м	19	26.25	18.75	Delete
Edit	М	17	25	17.75	Delete
Edit	F	20	26.5	18	Delete
Edit	М	16	24	17	Delete
Edit	М	15	23.5	16.75	Delete
Edit	F	13	22.75	15.5	Delete
Edit	F	14	23.25	16	Delete
Edit	F	17	25.25	17.5	Delete
Edit	М	18	25.75	18	Delete
Edit	М	13	22	15.5	Delete
Edit	М	20	27	19	Delete
Edit	М	12	21	15	Delete
	F	12	22	15	Delete

Lookups

The lookups page in figure 19 below is used to maintain the lookups of the system, system administrators has the ability to add, edit and delete lookups here.

Figure 19



Medical Diagnosis

The Medical Diagnosis page in figure 20 below is used to manage the medical diagnosis. The system administrator has the ability to add, edit and delete records here.

Figure 20



Medical Complaints

The Medical Complaints page in figure 21 below is used to manage medical complaints that are used in questionnaires. System administrators have the ability to add, edit and delete records here.

Figure 21

edic	cal Co	mplaints
- A DCII		
EARCH	ADD NEW	
		Complaint
Edit	Delete	Abdominal cramps/pain
Edit	Delete	Arthritis
Edit	Delete	Asthma
Edit	Delete	Bilharzia
Edit	Delete	Body itchiness
Edit	Delete	Body Pyrexia
Edit	Delete	BCM
Edit	Delete	Breast Lump
Edit	Delete	Chest Pain
Edit	Delete	Chest pain
	25 St 15 St 25 St	4 5 6

Manage Schools

The Schools page in figure 22 below allows the system administrator to manage school information in the system. They have the ability to add, edit and delete schools and their information.

Figure 22



Adding and updating school information

Once the system administrator selects a school they will proceed to the next screen in figure 23 below. This page allows the system administrator to add and update school information. They can save information by clicking on the "Add School' button or "Update school" if you are editing a school that already exists.

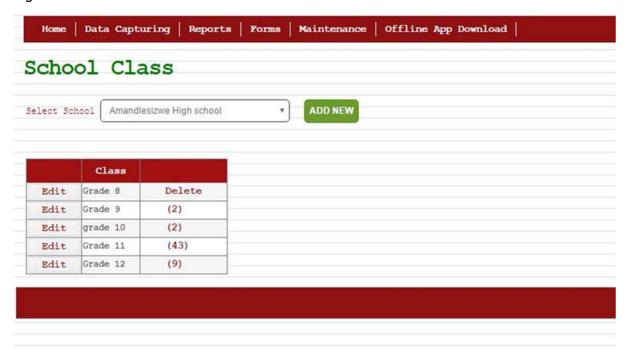




Manage Schools -> School Class

This School Class page in figure 24 below allows the system administrator to update school classes for all schools including their relevant grades.

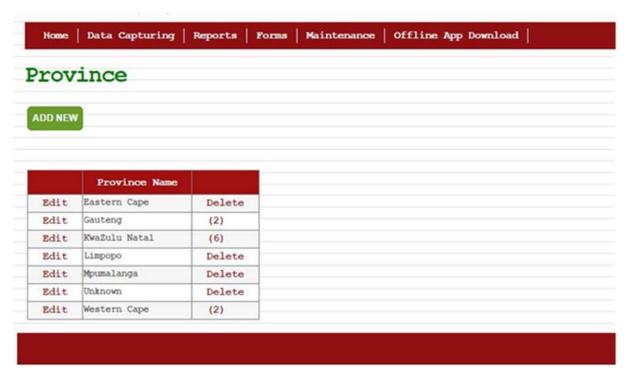
Figure 24



Manage Locations

The Province page in figure 25 below allows the system administrator to manage locations for data capturing and report generation. There are three locations that the system saves: Provinces, Districts and Sub-districts. All three screens have the same functionality.

Figure 25



Data Extraction

The Data Extract page in figure 26 below allows the system administrator to extract data for a certain period of time, for questionnaires and for a number of schools, and automatically generates an excel spreadsheet of the requested information.

To perform a data extraction, the system administrator must select a questionnaire, select the date range and the schools and press the "Download Extract' button. **NB: Make sure pop ups are enabled on your browser to download the extract.**

Figure 26

			SELECT ALL SCHOOLS DE-SELECT ALL SCHOOLS	
Questionnaire: Start Date: End Date:	Combined Health and Nurse Questionns *	Schools:	Amandlesizve High school Asiphikelele Senior Secondary School Babazani Frimary School	
		,	DOWNLOAD EXTRACT	

Report Generation

The system has a number of reports and forms that can be run based on parameters. These reports and forms replace all the manual forms utilised by the Department of Health for the Integrated Schools Health Programme.

Figure 27 Below is an example of report selection criteria.

Figure 27

SHS 2A LEARN CONFIDENTIAL		NDATION	N AND INTERMEDIATE PHASES-	
	Start Date 6/12/2016 Slub District Infabrica School Biva Combined School, Chwebeni Primary Sc	End Date Nurse Individuals	6/30/2016 Hompumelelo Hithembu, Bonisiwe Thembale MABUYANHULU SPHINOILE, MYENI LUYANG M	View Report
		-		

For this particular report (SHS 2A), you select the date range for the report, location, nurse and school. This is basically to narrow down the information that you need to run the report.

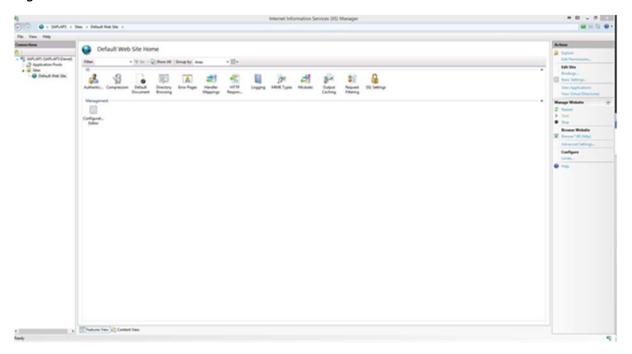
Technical specifications for Web application

Setting up the Web Application

To set up the application in Microsoft Internet Information Services (IIS), you have to copy the application folder onto the wwwroot folder for (IIS), normally found under (C:\inetpub\wwwroot). After copying the file, go to IIS to set up the website.

Once IIS is open figure 28 below, right click on default web site and select add application,

Figure 28



You will proceed to the next screen in figure 29 below. Add an Alias for the application and select the application path, navigate to the application folder in the wwwroot folder and click ok.

Figure 29

	Add Application	D ?
Site name: Default W	/eb Site	
Path: /		
Alias:	Application pools	
1	DefaultAppPool	Select
Example: sales Physical path:		
Physical path:		
	ntion	
Physical path: Pass-through authentica	ntion	

Setting up the Database

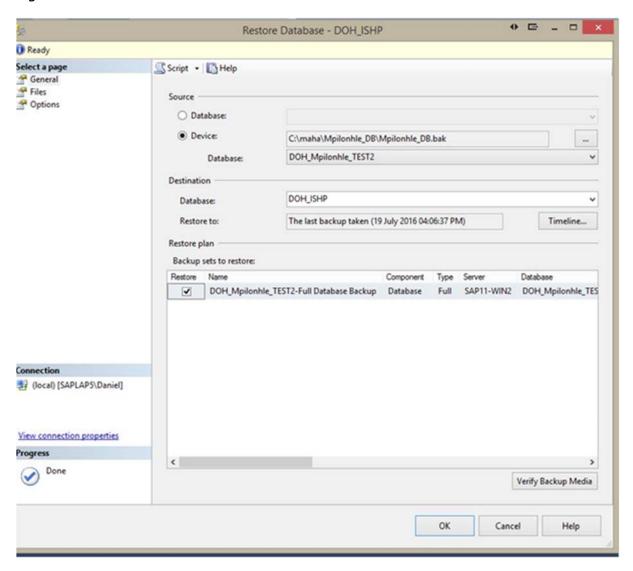
To set up the database for the site you will need to have a backup file that you will restore into the machine.

Open SQL Management Studio, create a new database and call it for example. "DOH_ISHP". Right click on the database, go to Tasks, then go to restore, select database.

You will proceed to the General screen in figure 30 below.

- For source, select device and navigate to where your backup file (.BAK) for the database is located.
- Destination For the database selection, select the database that you created in the previous step.

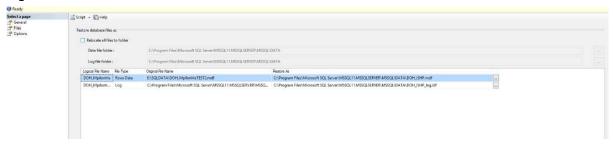
Figure 30



Files

The Files tab in figure 31 below allows you to save the files for the database to your desired location should you wish to change the default location that has been set up for you.

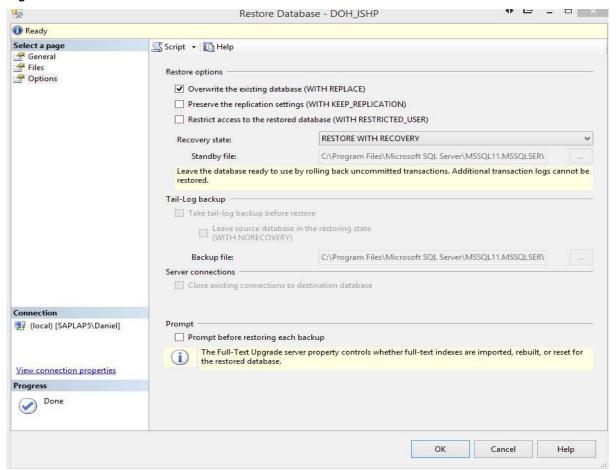
Figure 31



Options

The options tab in figure 32 below shows restore options you may wish to use, normally to select "Overwrite the existing database (WITH REPLACE)" to make sure that you making and exact replica of the backed up database.

Figure 32



Database Structure

Figure 33 below is the folder structure of the tables in the database, where all the data is stored.

Figure 33

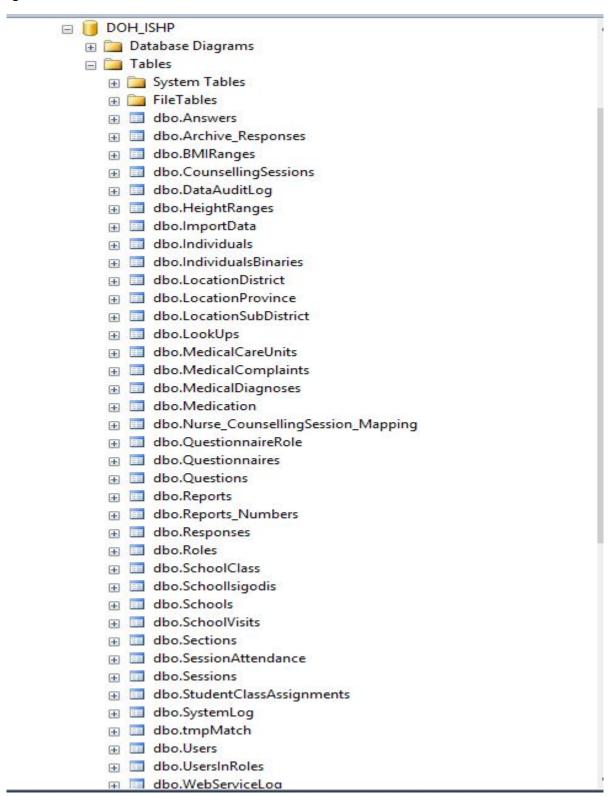


Figure 34 below are the stored procedures that run queries for fetching data in the system for reports or for the web application.

Figure 34

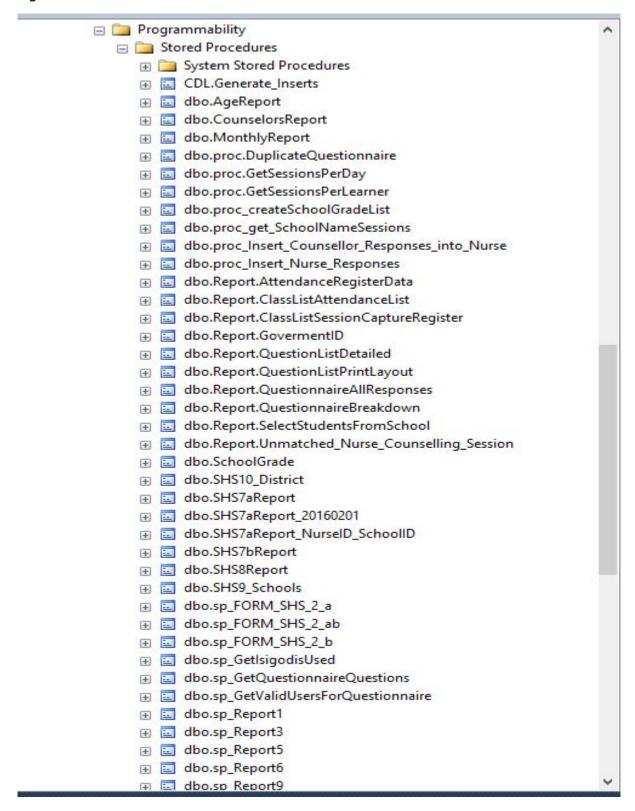
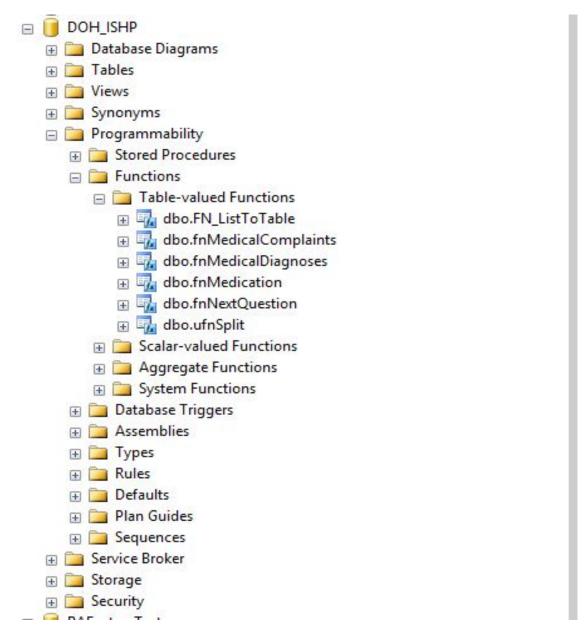


Figure 35 below are the functions that the system uses for calculations or to do some data manipulation.

Figure 35



When the application is set up in (IIS) and the database has been set up you should change the web configuration of the application to point to your database and report server.

You will have to modify the configuration in figure 36 below with the settings that relate to your machine such as the report server and the database.

Figure 36

```
(configuration)
      <!-- For more information on Entity Framework configuration, visit <a href="http://go.microsoft.com/fwlink/linkID-237468">http://go.microsoft.com/fwlink/linkID-237468</a> -->
      csection name="entityFramework" type="System.Data.Entity.Internal.Configfile.EntityFrameworkSection, EntityFramework, Version=5.0.0, Culture=neutral, PublickeyToken=077a5c561934e800" requirePermission="false" />
  (/configSections)
  <appSettings>
       <add key="Mpilonhle" value="Mpilonhle" />
      <add key="ValidationSettings:UnobtrusiveValidationMode" value="None" />
       <add key="reportServerUni" value="("report server unl")" />
      <add key="report_username" value="("report server username")" />
      <add key="report_password" value="("report server password")" />
      <add key="report_domain" value="(*domain to login into report server*)" />
       <add key="report_path" value="(*folder path to reports in the report server*)" />
      <add key="CSVpath" value="~/Reports/Data Extract/" />
  (/appSettings)
     <!--mpilonhle db on 156-->
   (connectionStrings)
      (and name="MolionhleConnection" connectionstring="data source=(local);initial catalog=00H_ISHP;persist security info=True;user id=(*sqi server login username*);password=(*password*)* providerName="System.Data.SqiClient" />
      (add name="100H./UpilomhleEntities" connectionString="metadata-res://"/App_Code.Nodel.csdl[res://"/App_Code.Nodel.ssdl[res://"/App_Code.Nodel.msl;provider-System.Data.SelClient;provider connection string="Aquat;data source-(Local);initial catalog=00H.190P;persist
      code name="TOOL/UpilomhetconcectionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="OnestionString="One
 </connectionStrings>
```