EVERY CHILD IS A NATIONAL ASSET

SA SAMS
South African School and Administration Management System

MODULE 16

ABC OF ...
SECURITY AND DATABASE FUNCTIONS

basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

Published by the Department of Basic Education
222 Struben Street
Private Bag X 895, Pretoria, 0001
Website: www.education.gov.za or Thuthong

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ISBN:

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General Instructions on using this SA-SAMS Manual:

- Click on the **menu option** to open the required screen.
- Fields containing **an arrow** on the side **contains drop-down boxes** with pre-populated information. **Click on the arrow** to display the list and then **click on selected value**.
- Click on **Save** to update all capturing.
- Click on **Done** to exit the screen**.**

The following symbols are used in the manual to indicate the required action with every screen:

Background **Information**	Data used in other modules or pre-captured data needed	Options in **drop-down tables**	Screens that require **capturing**	**Printouts and Reports**	Summary and Stats screens

A. INTRODUCTION

1. Purpose of the Module

The **Security and Database module** (Fig. 1) assists the administrator with:

- The maintenance of the database to keep it operational.
- Access of the users to the different sections of the modules. This is intended to protect the confidentiality of sensitive data as well as integrity and availability of data from unauthorized users.

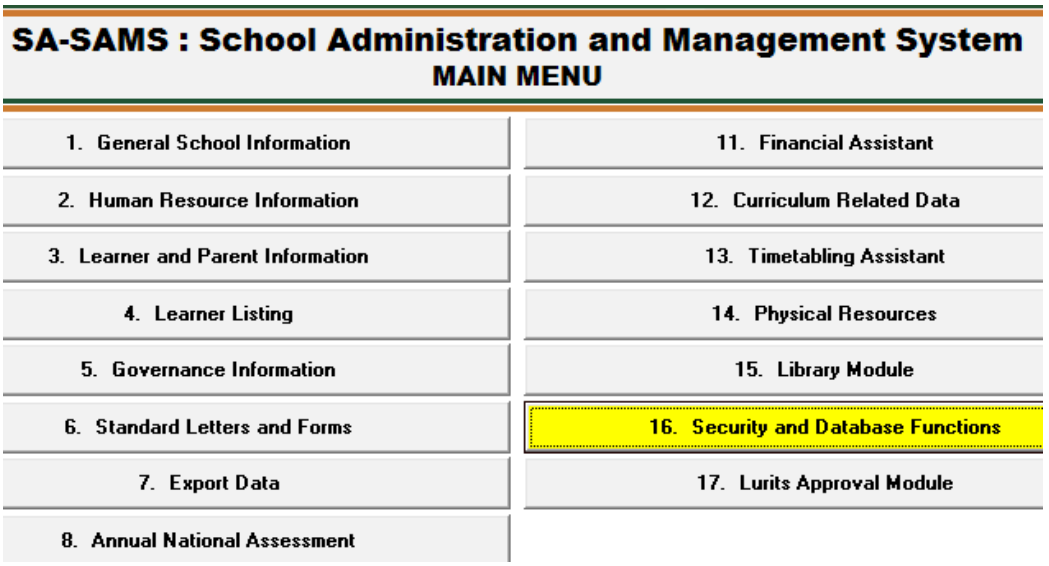


Figure 1: Main Menu

This Module is dependent on the following data **already being captured** in other modules:

Module	Data to be pre-captured (with the SA-SAMS menu no)
1	School details (1.1), Grades (1.2), Classes (1.3), School Terms (1.6), subjects offered by the school(1.5),
2	Educator details (2.1)

Data from this module is **required by the following modules**:

Module	Learner data used for (SA-SAMS menu no)
8 &12	ANA (8) & Curriculum (12) for marks verification.
	All modules

B. COMPONENTS OF THE MODULE

2. Module 16: Security and Database Functions

The administration and management functions regarding the learner data and parents information can be divided into 2 sections according to the specific purposes:

2.1 Database Maintenance

2.2 Database Security

These sections are tabled below with the relevant headers and SA-SAMS menus that are used in this manual:

Header & (SA-SAMS menu number)		Functionality
2.1 Database Maintenance	2.1.1 Export Data Fields to Ms Excel (Menu 16.3)	→ Export selected data files to MS Excel.
	2.1.2 Compact the Database (Menu 16.4)	→ Compact the database by user → Database compacted with version upgrade.
	2.1.3 Microsoft Backup Utility (Menu 16.5)	→ Back up function on system → External backup
	2.1.4 Database Functions (Menu 16.7)	→ Compact database and create backups → Locate database → Delete database and backups
2.2 Database Security	2.2.1 Maintain User Profiles (Menu 16.11)	→ User profiles (groups) created → System rights linked to user profile. User access to sub-module level per user profile
	2.2.2 Maintain Users (Menu 16.12)	→ Users linked to User Profile
	2.2.3 Maintain Mark Security (Menu 16.13)	→ Principal, HOD's selected for marks verification. → Educators a.o. users linked to a class / subject group for capturing marks

Each of the functions will be discussed individually under the related sections. The references to the SA-SAMS Menu from the **Security and Database Functions Module** are shown in Figure 2.

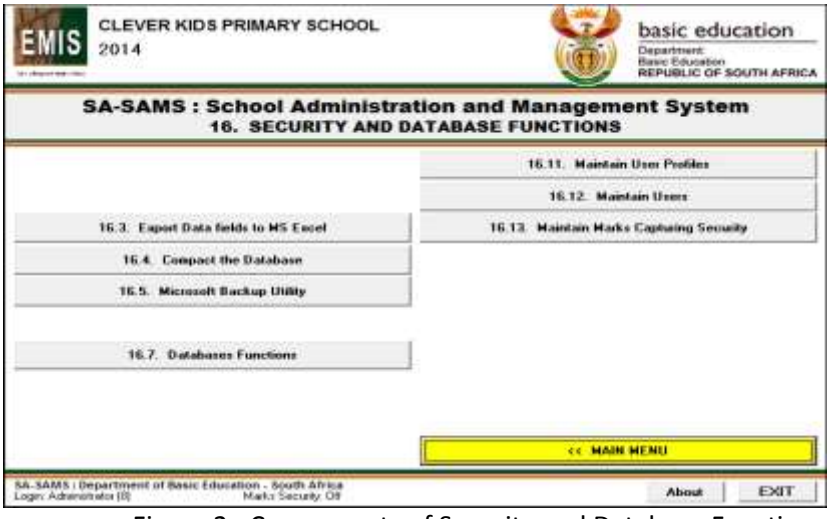


Figure 2: Components of Security and Database Functions

2.1 Database Maintenance

The school's database maintains a library of information on the school, learners, parents and other related data in a well organized, accessible format and is dynamic due to changes being made when data is added, edited, removed or moved around. Over time, this can cause the database to start to malfunction. Database maintenance is used to keep the database clean and well organized so that it will not lose functionality.

There are a number of administrative tasks that a **database administrator** has to perform regularly (daily, weekly, monthly, or quarterly) to keep the database functioning at normal levels, e.g. **backing up of the data** and **compacting of the database.**

2.1.1 Export Data Fields to Ms Excel (Menu 16.3)

A copy of the data can be made by exporting the data fields to MS Excel as follows:

Click on **Export Data Fields** to select the fields that needs to be exported (Fig. 3).

- Click on the arrow and select the **Main Data Tables** (see table below)
  - Select sub tables from the dropdown list in the adjoining fields on the right and click on **Go**.
- Tick the **data tables** that need to be exported or tick the box to **select all the tables**.
  - The selected tables appear in the box on the right.
  - To deselect the tables from the box, remove the tick next to the table.
- The following **filter options** are available at the bottom left: Gender, Grade, Status and Data year.
  - Click on **Clear Filters** to remove the filter selection.
- Click on **Export Data to MS Excel.**
  - Click on **Yes** to view a print screen of the table.

Click on **Done** to exit the screen.

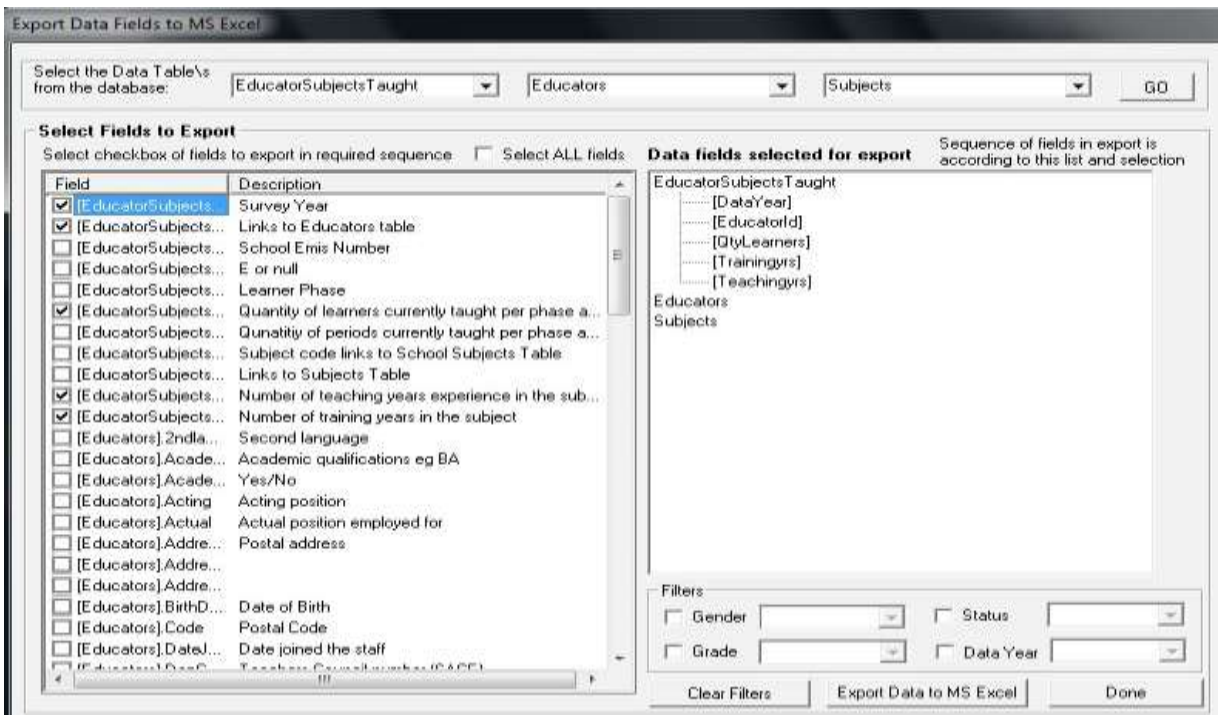


Figure 3: Export Data Fields to MS Excel

This will open a list of available options listed alphabetically.

Fields	Options from Drop-down list	
Select Main Data Table	Absentees Absentees Stats Classes Disciplinary Records Educa-tors Educator Subjects Taught Educator Teaching Level Extra Mural General Info Learner Applications learner CASS Learner CTA Learner Info Learner Movement	Learner Promotion Learner Subjects Mortality Data Parent Child Parent Info Report Cycles Report Marks School Grades School Terms SGB Members Staff Absentees Staff Absentees Statistics Staff Leave Staff Members Subjects

2.1.2 Compact the Database (Menu 16.4)

Database files can expand as you add and update data and could this could slow down performance or occasionally become corrupted or damaged.

- The remains of temporary and deleted data can slow down operations or the opening of SA-SAMS operations. In particular situations the database file can even become corrupted.
- Compacting a database does not compress the data but make the database file smaller by eliminating unused space.

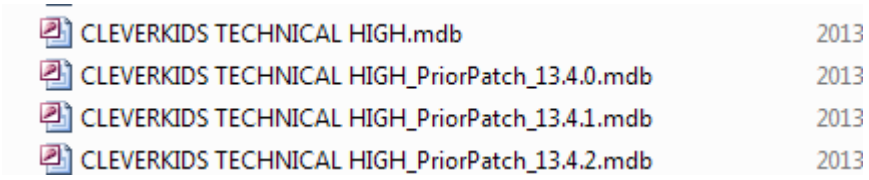
It is advisable to **compact the database regularly** depending on the amount of transactions done e.g.

- **Compact weekly** if SA-SAMS was used for viewing or when a few updates were done.
- **Compact daily** when marks or new learners are captured or during the period of reporting.
- For network users care must be taken to use this facility as it could have an impact on data storage.

There are 3 actions available to compact the database:

2.1.2a Automatic compact functionality when upgrading the SA-SAMS version

The current version of SA-SAMS is designed to automatically compact the school's database when upgrading to a new version. This will be shown in the **Backup** folder as a Prior Patch database as shown below.



2.1.2b Compact functionality on the opening screen

The administrator should **compact the database at least once a week** for optimal functioning.

To compact a database manually for maintenance click on the **school database** listed on the opening screen (Fig. 4).

- Click on **Compact Selected Database**
  - A notification screen will inform you on the size of the compacted database and if it could replace the current database (Fig. 5).
- Click on **Yes** to use the compacted database and **OK** to confirm the operation.

Continue to open the school database as usual.

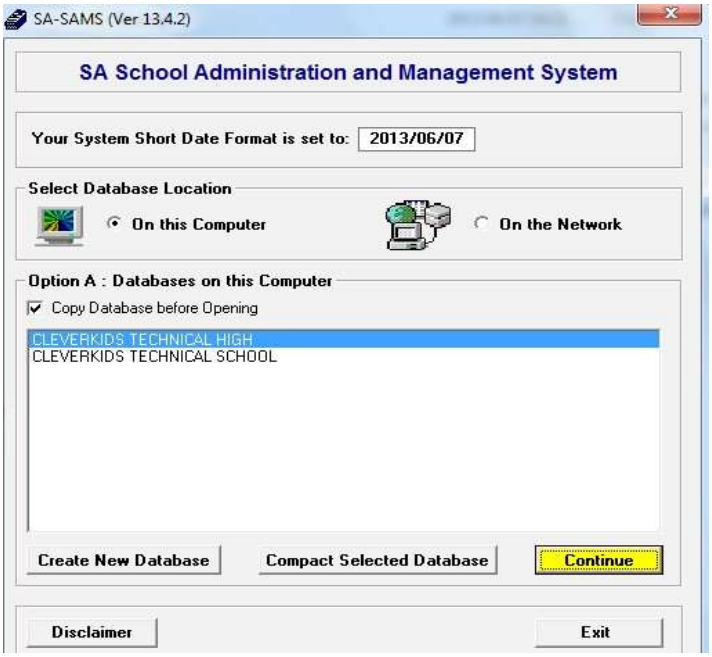


Figure 4: Compacting the database before starting

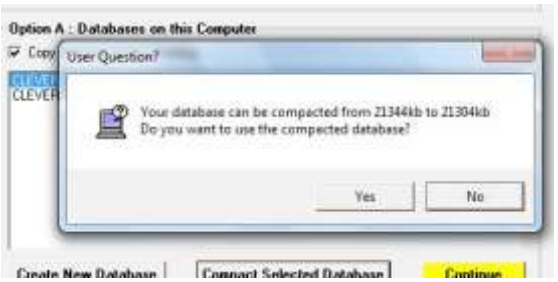


Figure 5: Confirmation to compact the current database

2.1.2c Compact the Database (Menu 16.4)

To manually compact a database, click on **Compact the Database.**

- Click on **Yes** to confirm that a backup of the database was made (Fig. 6).
- Click on **Yes** to use the compacted database (Fig. 5).
- A notification screen will inform you that the database was successfully compacted and that it replaced the latest database used.

Continue to operate SA-SAMS as usual.

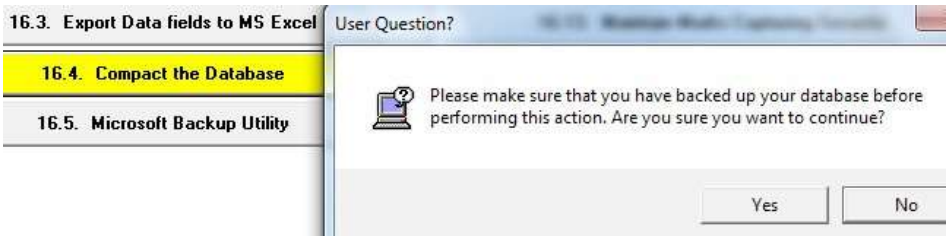


Figure 6: Notification before the database is compacted

2.1.3 Microsoft Backup Utility (Menu 16.5)

A good practice is to regularly make **backup copies of the database regularly** to ensure that the most updated data is available when one of the following happened:

- Computer is stolen or gone, fire or water damage or a computer that crashed.
- Database failure or became corrupted.

It is important to make a **backup copy** regularly and keep it on the computer, but also keep a **copy on a removable device** such as an external hard drive, memory stick or CD. It is also a good practice to ensure that a copy of the database made monthly is kept at the district.

The opening screen of SA-SAMS has a functionality to make a **copy of the database** before opening. (This is to ensure that a copy of the latest updated version is made for future reference, especially when upgrading to a new version.)

- Tick the option **Copy Database before Opening** (Fig. 7).
- The copy is available in the Backup file of the EdusolSAMS folder.

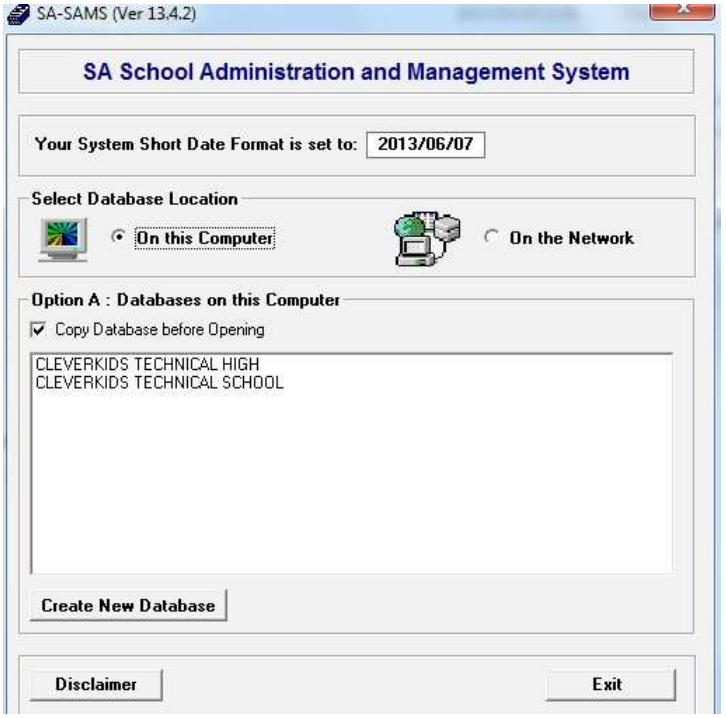


Figure 7: Setting for Automatic Backup Copies

- To **manually backup** the database, click on **Microsoft Backup Utility (Menu 16.5).**
  - A message informs you on the location of the opened database (Fig.8).
    - Click on **Yes** to continue the backup process.
    - A backup copy will be made using Microsoft functionality MS Backup. An external backup copy can be made if the Windows function is not available on the system. (Fig. 9).

A notification screen will inform you of the successful operation.

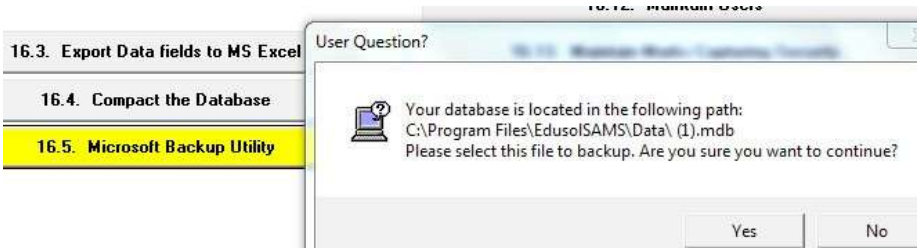


Figure 8: To make a Backup Copy of the Database.

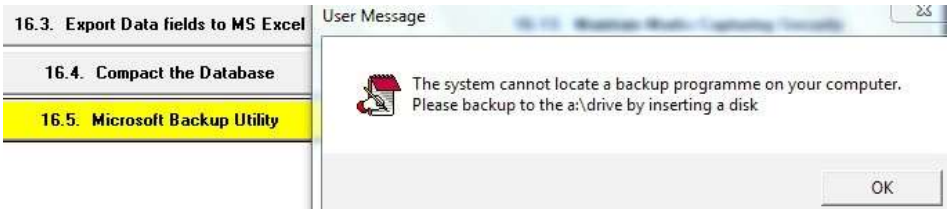


Figure 9: Backup Copy of the Database.

2.1.4 Database Functions (Menu 16.7)

As more data gets inserted into the database the size of the database increases so menu 16.7 will help users to compact the database if they need to email it. Functions included in this menu are:

- Compact database and create backups
- Locate database
- Delete database and backups

Compact database

To compact a database you need follow these steps:

- Click on menu 16.7 which will open figure 10.
- Select add (**+**) to expand
- Select **Click to Backup DB (Compact and Zip into Backup Folder)**

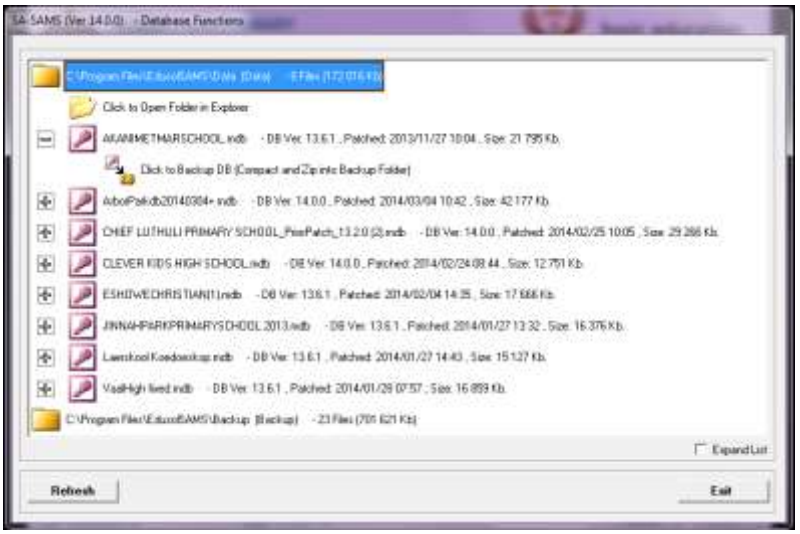


Figure 10: Database Functions

Locate database

To locate a database you need to follow these steps:

- Click on menu 16.7 which will open figure 10.
- Select **Click to Open Folder in Explorer** this will open the folder where your database is stored (e.g data folder).

Delete database and backups

To delete a database backup you need to follow these steps:

- Click on menu 16.7 which will open figure 11.
- Select **C:\Program Files\EdusolSAMS\Backup (Backup)** this will open the folder where your database backup's are stored (e.g Backup folder).
- Select add (**+**) to expand
- Select **DEL Click to Delete File**
- A confirmation window will open (figure 12). Select **Yes.**

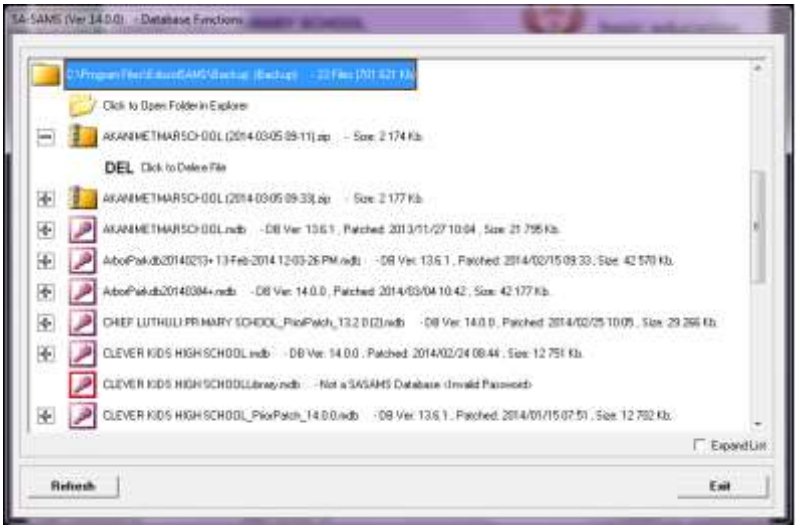


Figure 11: Delete database backups

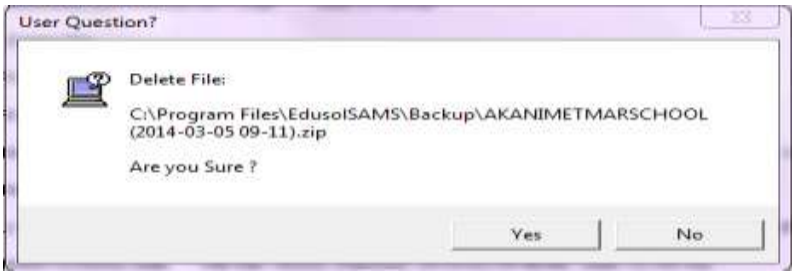


Figure 12: Confirmation window

2.2 User Rights Management

Security administration and management on a database includes **data access controls**, with user identification and **user rights management**. This is intended to protect the confidentiality of sensitive data as well as integrity and availability of data from unauthorized users.

The security design for SA-SAMS is constantly upgraded to protect the sensitive and confidential information on the school databases. Currently it is set up as follows:

Description	Figure	Function	Person responsible
2.2.1 Maintain User Profiles (Menu 16.11)	Fig 10	⇨ The number and level of **User Profiles** (user groups) are maintained in the first tab.	School System Administrator
2.2.1a System Rights (Menu 16.11)	Fig 11	⇨ **System rights** are assigned to each profile in the next tab.	School System Administrator
2.2.1b Activate Users (Menu 16.11)	Fig 12	⇨ **New users** that are linked by default to a profile and should be activated / linked to the User profile.	School System Administrator
2.2.2 Maintain Users (Menu 16.12)		⇨ Users with rights assigned in previous versions are indicated as TMP and must be linked to a user profile. ⇨ **User profile and login data** updated	School System Administrator
2.2.2a Main Menu: User Preference		⇨ User profile and **password** updated	User
2.2.3 Marks Capturing Security (Menu 16.13)		⇨ Maintain user access to classes / subject groups ⇨ Maintain verification access	School System Administrator

2.2.1 Maintain User Profiles (Menu 16.11)

The number and level of **User Profiles** are maintained in this screen.

Click on **Maintain User Profiles** to list the user profiles with the level of access (Fig. 13).

- Click on **Add** to add a new user profile
    - Enter a **name / description** and assign a **level** to this User Profile.
- Users assigned in previous versions are indicated as **TMP** (Fig. 13) and should be linked to a profile in the next section (see 2.2.2).
    - This is to ensure that the individual user's rights are easily managed in a user profile. The level is assigned according to the post level as was captured in Module 2.
- **Delete** all TMP Users after they were linked to a profile in 2.2.2.
- Click on **Save** to keep the new settings.

Click on **Done** to exit the screen.

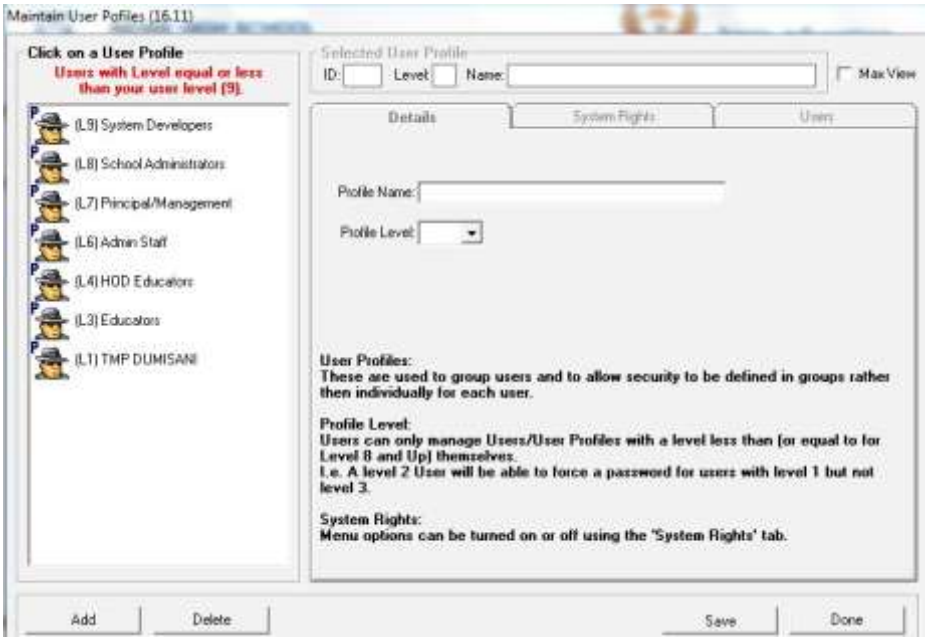


Figure 13: Maintain User Profiles

2.2.1a Maintain System Rights (Menu 16.11)

System rights are assigned to each profile in the next tab by the school administrator. Individual users are assigned to a specific group with access rights to specific modules instead of maintaining the rights individually.

The Administrator clicks on a User Profile and click on the **System Rights** tab to view the access assigned to the Profile (Fig. 14)

- Each Profile has a default setting that can be changed per profile (group) or per individual (in Menu 16.12).
    - Access is indicated by a tick in the box next to the description.
    - Deselect access to a particular menu by removing the tick next to the description.
- Click on **Save** to keep the new settings.

Click on **Done** to exit the screen. System rights is indicated by greying out of buttons as shown in figure 15.

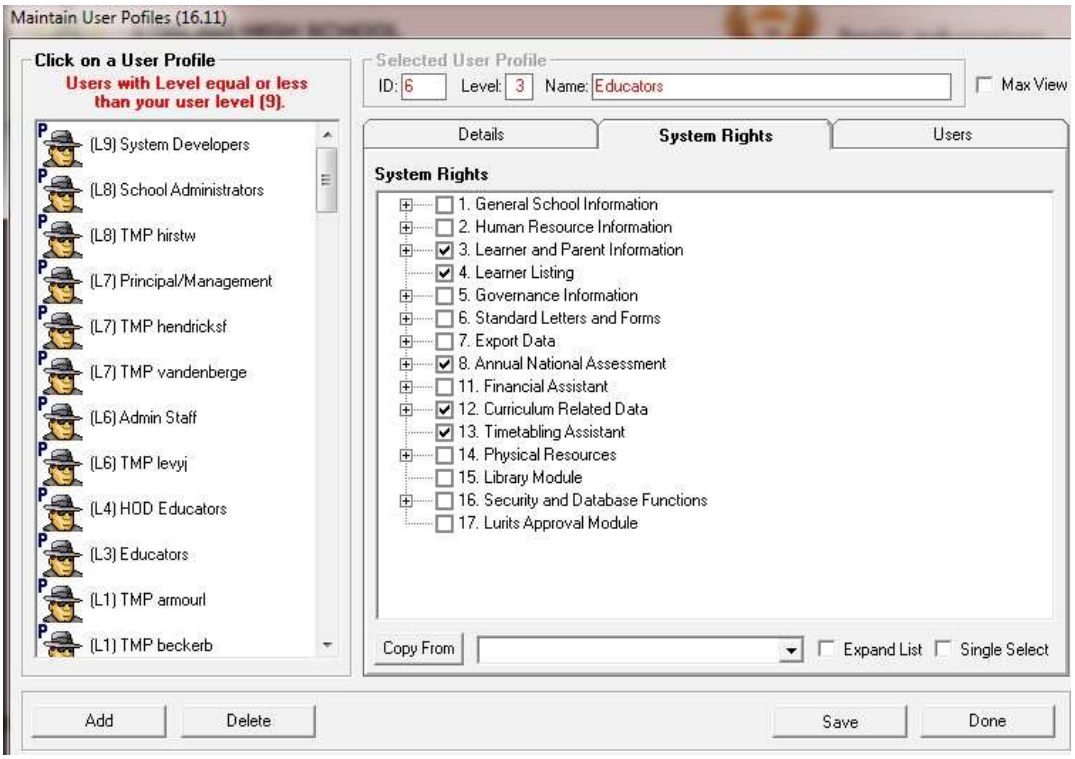


Figure 14: Maintain System Rights

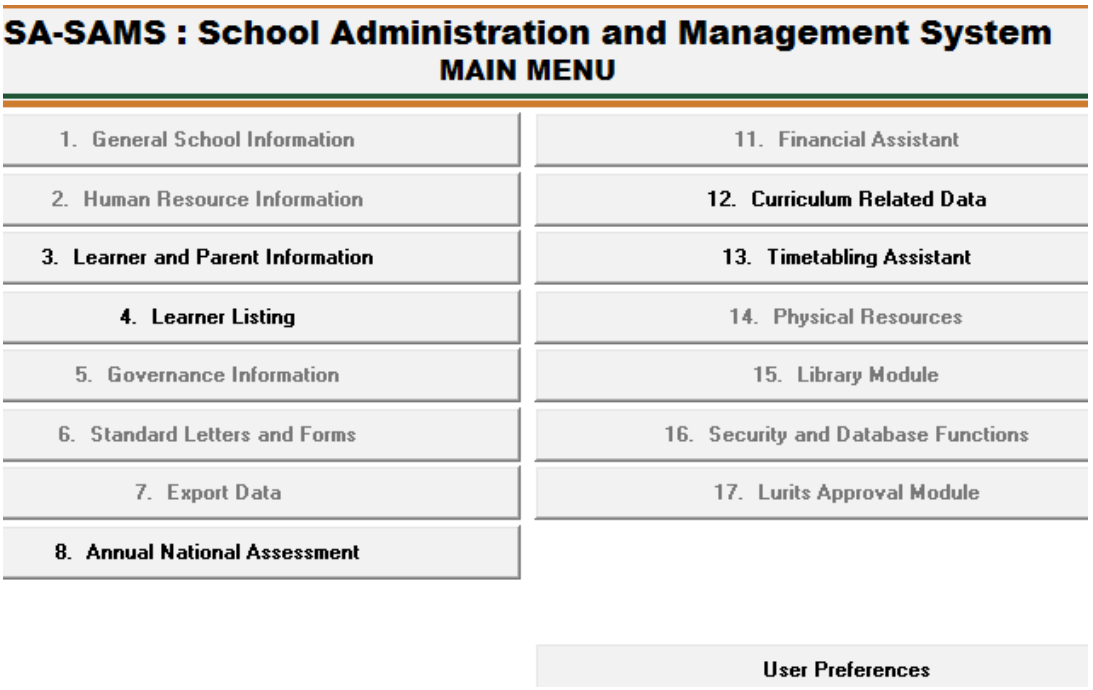


Figure 15: System rights as seen by user

2.2.1b Activate Users with a Profile (Menu 16.11)

New users are assigned by default to a profile and should be activated / linked to the User profile. This is to assist the administrator in assigning access to modules to a group and per individual.

Click on a User Profile and click on the **Users** tab to maintain the individuals assigned to a profile (Fig. 16)

- The users are linked to a profile according to their post description as was captured in Module 2.

- The top user field shows the current users linked to the Profile.
    - Click on the user to remove from the current list.
- The bottom user field indicate users that are not linked to any profile. These users have therefore no access to any modules.
    - Click on the user to link and activate the user with the profile.
- Click on **Save** to keep the new settings.

Click on **Done** to exit the screen.

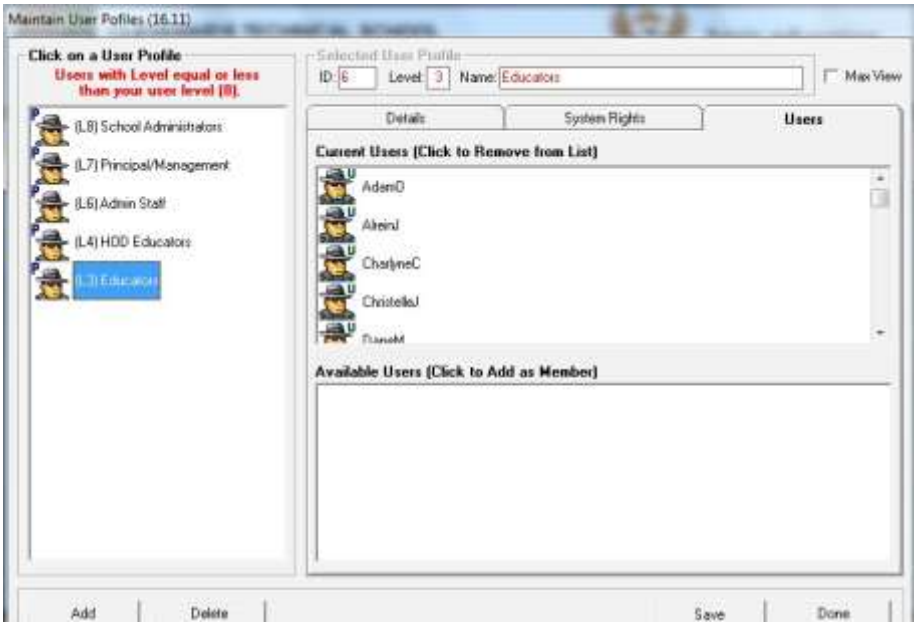


Figure 16: Activate Users to a Profile

2.2.2 Maintain Users (Menu 16.12)

Individual users can be added, assigned and reassigned to User Profiles by the school administrator. Users can only see other users of their own level and lower levels if given rights.

The administrator clicks on Maintain Users to view the individual users with their assigned User Profile level in brackets.

⇨ The users are linked to a profile according to their post description that was captured in Module 2 (Fig. 17).

⇨ Users can be viewed in the Archived or Current list.

- Click on a User
- The user can be **linked** to a **Profile** (staff or educator) and then be selected from the drop-down list to populate the users details as shown in figure 17.
- User profile data must be captured when the Profile is set to **Nothing**.
- The **login name** is set by default and should be used as the **unique password initially** for the specific user. The minimum length of the login name is 5 characters (Fig. 18).
- A user can be reassigned / assigned to a specific user profile.

User Profile option	All/ System Developers (L9) / School Administrators (L8) /Principal, Management (L7) /Admin Staff(L6) / HOD Educators (L4)

Click on Save to keep the new settings.

Click on **Done** to exit the screen.

- To add a new user, the administrator clicks on **Add**.
  - Complete the profile following the instructions set out above.
  - Click on **Save** to keep the new settings.

Click on **Done** to exit the screen.

- To remove a user, the administrator clicks on the **user** and clicks on **Archive** at the bottom of the screen.
  - Click on **Yes** to confirm..
  - Click on **Save** to keep the new settings.

Click on **Done** to exit the screen.

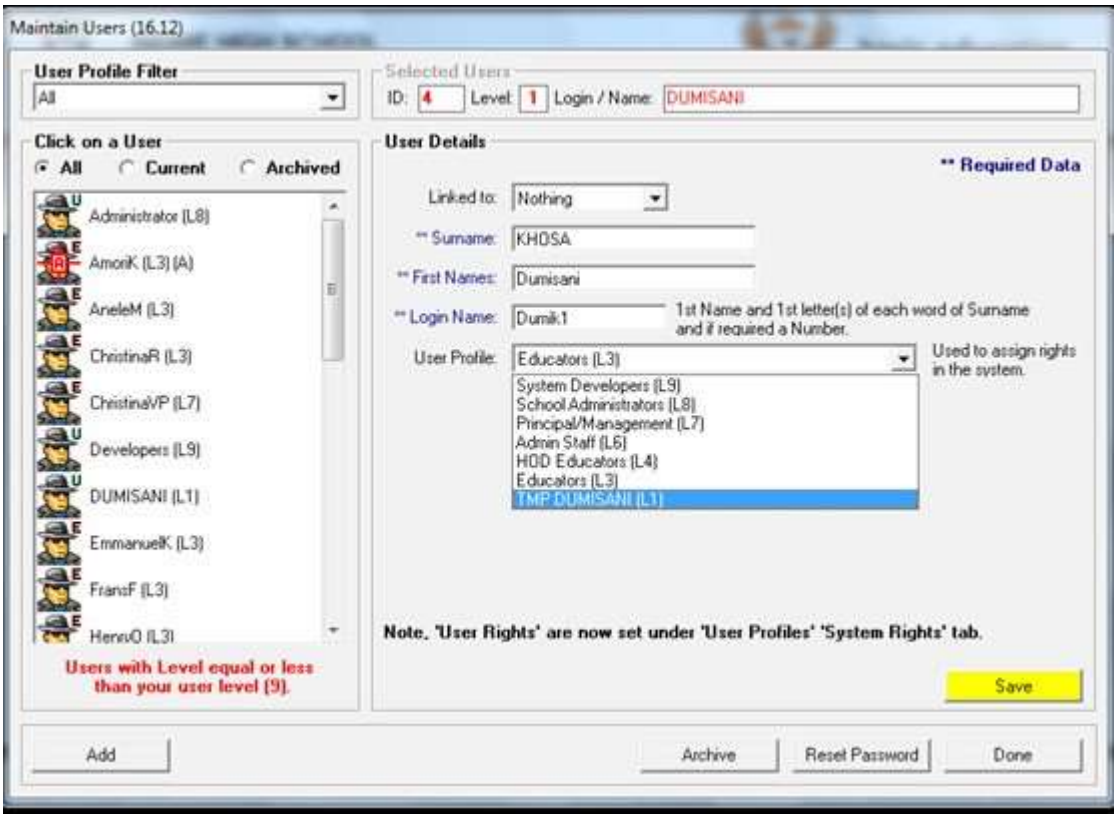


Figure 17: Maintain Users

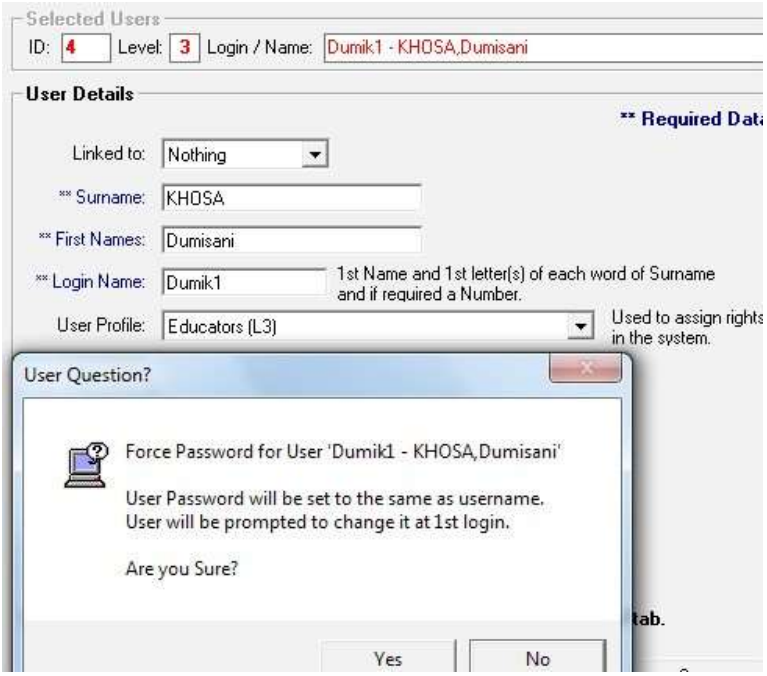


Figure 18: Reset password by Administrator

2.2.2a Maintain Password (Main Menu)

Individual users can change their password as follows:

The user clicks on **User Preference** at the bottom of the Main Menu screen.

- The user details are populated.
- Enter the login name or current password used and click on **GO.**
- Enter a new password and re-enter to confirm.
- Click on **Save** and a confirmation screen acknowledge that the new password was saved.

Click on **Done** to exit the screen.

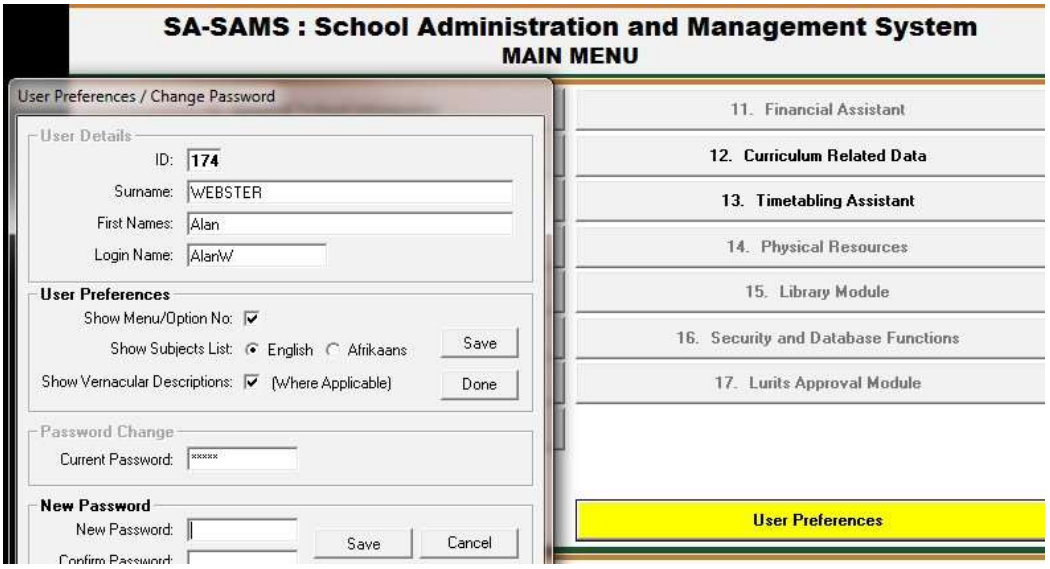


Figure 19: Change the user password

When you have finished editing and changing the user, click on **Done.**

2.2.3 Maintain Mark Capturing Security (Menu 16.13)

This window assigns the educators and staff to specific classes / subject groups in order to capture or verify the captured marks.

The administrator clicks on Maintain Mark Capturing Security to assign individuals to classes.(Fig. 20)

- Filter by selecting a Grade OR a Subject Group and then click on **Go**.
- Click on status: **Is ON** and the robot changes to green.
- Add a principal, HOD's and Capturers as follows:.
- Click on **Click to Add** and then select the User group and the name of the specific user you wish to add.
- Click on **Save** to keep the new settings.

Click on **Done** to exit the screen.

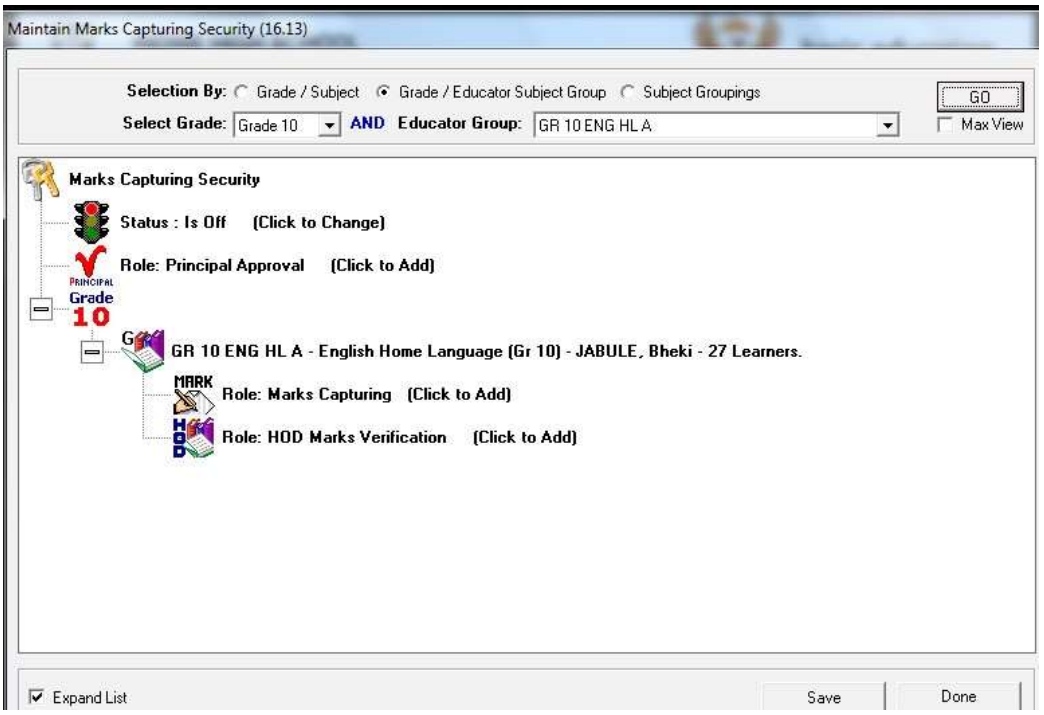


Figure 20: Maintain Marks Capturing Security

Figure 21: Select user

C. SUMMARY

The **Security and Database module** assists the administrator with:

- The maintenance of the database to keep it operational.
- Access of the users to the different sections of the modules. This is intended to protect the confidentiality of sensitive data as well as integrity and availability of data from unauthorized users.

3.1 Quick reference of the sub-menus and their uses:

The administration and management functions regarding the learner data and parents information can be divided into 2 sections according to the specific purposes:

2.1 Database Maintenance

2.2 Database Security

These sections are tabled below with the relevant headers and SA-SAMS menus that are used in this manual:

Header & (SA-SAMS menu number)		Functionality
2.1 Database Maintenance	2.1.1 Export Data Fields to Ms Excel (Menu 16.3)	→ Export selected data files to MS Excel.
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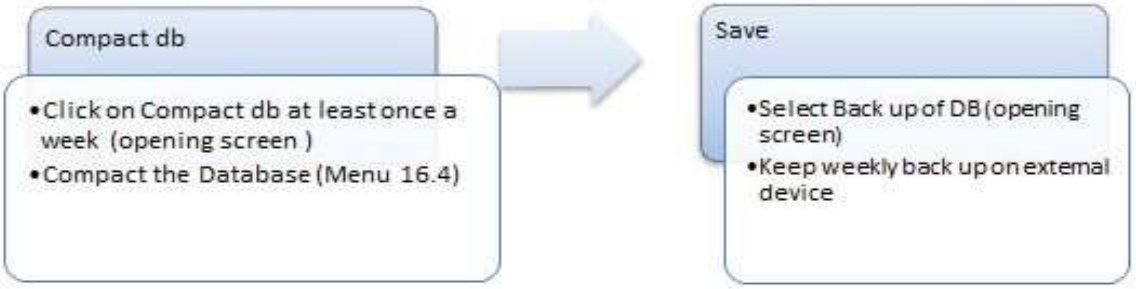
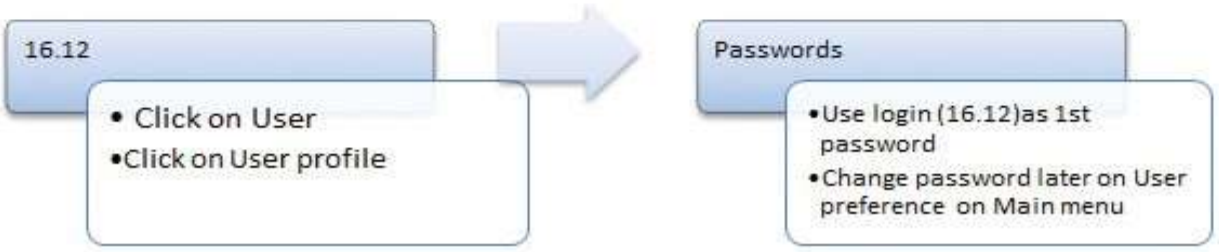
	2.1.3 Microsoft Backup Utility (Menu 16.5)	→ Back up function on system → External backup
	2.1.4 Database Functions (Menu 16.7)	→ Compact database and create backups → Locate database → Delete database and backups
2.2 Database Security	2.2.1 Maintain User Profiles (Menu 16.11)	→ User profiles (groups) created → System rights linked to user profile. User access to sub-module level per user profile
	2.2.2 Maintain Users (Menu 16.12)	→ Users linked to User Profile
	2.2.3 Maintain Mark Security (Menu 16.13)	→ Principal, HOD's selected for marks verification. → Educators a.o. users linked to a class / subject group for capturing marks

3.2 "How to..." flow diagrams:

- ***Maintain a database:***



- ***Assign User to User profile and how to change passwords:***



Notes

Feedback/Contact Form

Your feedback is important to us. Please leave any comment that you want. If you are struggling with anything in this module, please send us an email and remember to also give us a number or email to contact you back with.

Contact Name:

Email Address:

Cellphone Number:

Version of SA-SAMS:

Operating System:

District / Province:

Comments / Problem Details:

Send Email

Contact Person	Telephone	Email
Carinne van der Westhuizen	0123573832	vanderwesthuizen@dbe.gov.za
Pauline Ramphele	0123573287	ramphele.m@dbe.gov.za
Lebogang Mveke	0123573396	mveke.l@dbe.gov.za

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SA SAMS

South African School Administration Management System

basic education

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