

Backup Procedures – for IT Staff User Guide



Table of Contents

PCSchool Backup Guide	3
<u>What do I need to Back Up:</u>	<u>3</u>
SQL- Data	3
Programs	3
<u>Backup Frequency for PCSchool folders</u>	<u>4</u>
<u>External Files</u>	<u>4</u>
<u>Backing up the SQL Databases.</u>	<u>4</u>
An ideal solution would be:	5
<u>Snapshots</u>	<u>5</u>
<u>SQL Database backup from within the SQL Server Management Console.</u>	<u>5</u>
<u>Backing Up Using A Script File</u>	<u>8</u>
<u>Backing Up Within PCSchool</u>	<u>9</u>
How to create a Backup within PCSchool	9
<u>Export files</u>	<u>11</u>
<u>Restoring from a Backup</u>	<u>11</u>

PCSchool Backup Guide

This guide is to be used alongside your school's current backup strategy. It describes procedures that will minimise the chance of data loss for PCSchool. As with any Backup procedure, it can impact on the overall performance of the network. The frequency of back up needs to be determined by the school, taking into account regulatory requirements.

It is important that backups are stored on a separate computer to where the live files are in case of hardware failure. It is also advisable to have backups stored on an off-site location in case of significant site damage (fire/earthquake).

With schools hosting PCSchool on a Virtual Server, a daily server Backup covers the file based backup requirement, but recovery of SQL Databases is not always an easy process from these, hence it is recommended that an SQL Database strategy is also in place.

It is important to keep a sequence of Backups, as missing data is not always discovered immediately. Backing up prior to making any major changes within PCSchool is highly recommended. This can be done at a table level through Utilities->Backup (providing the user has appropriate security) or at a Database level if using an SQL Server.

What do I need to Back Up:

The three main aspects of PCSchool to consider when backing up are the data, the programs and the external documents that are produced by PCSchool (e.g. Reports, statements, payslips).

SQL- Data

Most of the data is stored within the SQL Server within a database called PCSchool, although there are still a few DataFlex tables within the "...PCSchool\Data" folder. For this reason, when schools undertake a major update or complete a roll-over, both the SQL Database and the "Data" folder need to be backed up (not the sub folders). The combination of the "Data" folder with the SQL Database will allow a full recovery. If more than one workarea is being used, the matching SQL Database and PCSchool folder for each need to be backed up as well.

Programs

The PCSchool Back Office programs are written to expect a certain data structure. The data structure must be of the same or greater version than the program. If the program version is greater, it will trigger a data structure update (a process that needs careful monitoring as it modifies the data tables). This will only be successful if the correct **stsync.sts** file has been copied into the "Data" folder. The program cannot run until this has been successfully completed. For this reason, a backup of the "Programs" folder is required prior to an update so they can be wound back if needed.

Backup Frequency for PCSchool folders

Below is a guide to frequency that the PCSchool folders need to be backed up, although some schools may decide to do this more frequently to prevent interim data loss:

Bitmaps:	Prior to a Data Update and after Student/Staff images have been added
PCSchool Database:	Daily and also prior to a Data Update or Rollover
Live Workareas:	See preferred schedule overleaf
Old workareas:	After creation, then stored on media (EG DVD, USB Drive) as they usually do not change.
Programs:	Prior to Update or Follow-up
Reports:	After new reports are added

External Files

Many schools are now utilising the Document Management aspect of PCSchool. This allows for PDF versions of accounts, pay slips, school reports and a variety of other information to be stored against a student, staff or family member.

The document management path is set by the school, with the default location being a folder named "Documents" in the PCSchool\Data folder.

The path can be changed under Utilities->System File Maintenance, second tab "Non Financial Defaults". This location should be backed up daily to ensure any new documents saved into it are recoverable.

New Zealand Schools need to back up the MOE files under the PCSchool\Documents folder after the March and July returns. These need to be archived for later auditing.

Backing up the SQL Databases.

The main database for PCSchool is called *PC SCHOOL*. Some schools may have other live workareas which will have a name reflecting their purpose.

For each current database, **a minimum of a daily backup** should be performed.

If running the full version of SQL Server, a Maintenance Plan can be set up within the SQL Server to accomplish this.

If running the Express version, an external script can be set up on the server to achieve this. Please contact PCSchool for a copy of this script.

It is **strongly advised** to maintain a set of Backup files rather than having only the latest Backup. Sometimes a discrepancy in the data may not be detected for several days, in some cases weeks. The number of days kept will depend on storage capacity, as well as the potential value held in data that is old.

An ideal solution would be:

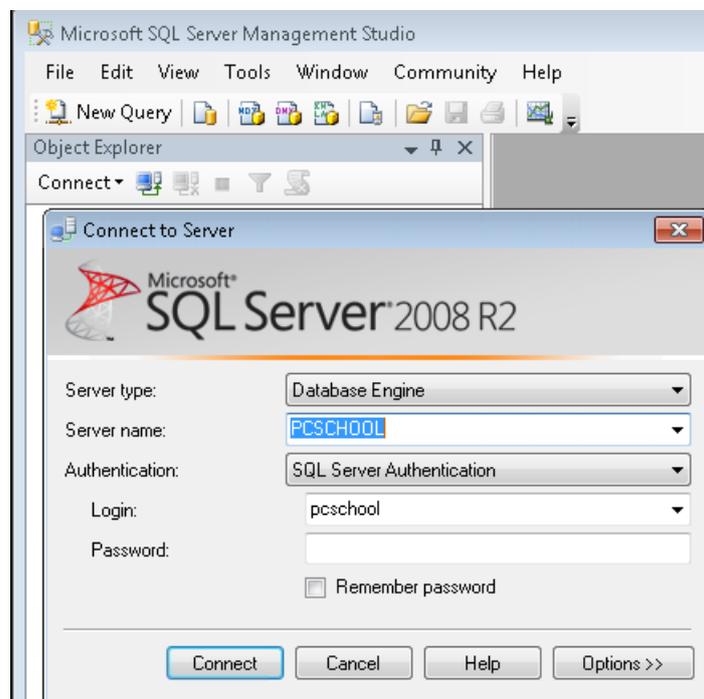
- | | |
|-----------|--|
| 1. | A FULL backup every day, with a 1 week tail |
| 2. | A monthly backup independent of step 1 allowing greater depth for recovery |

Snapshots

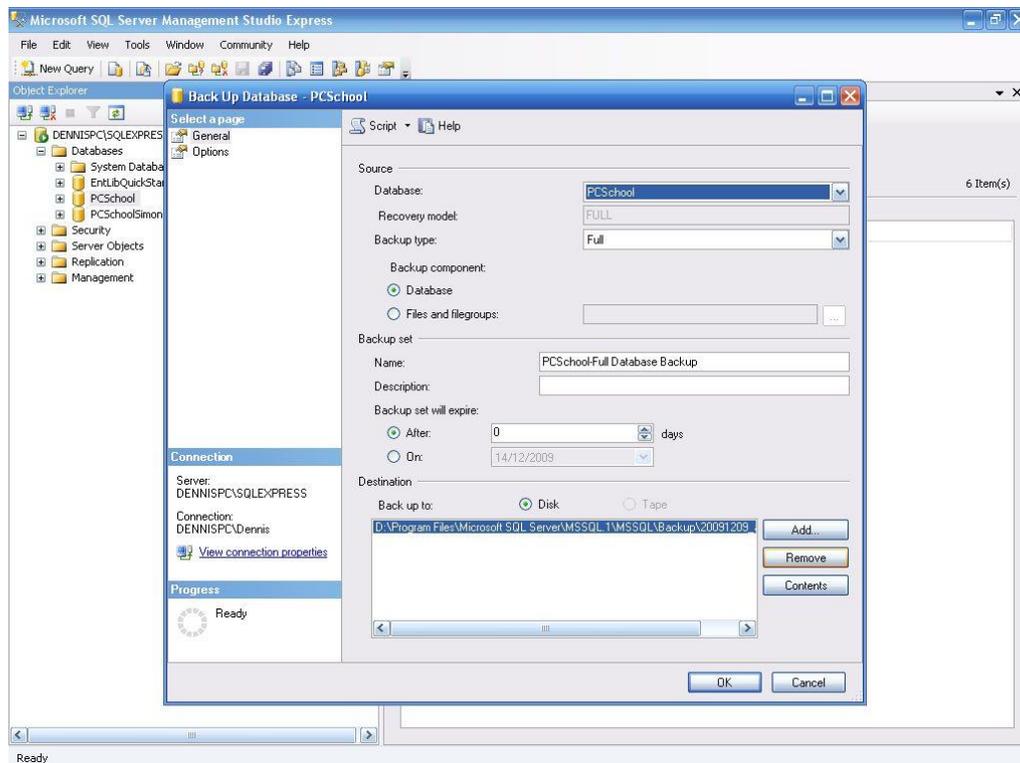
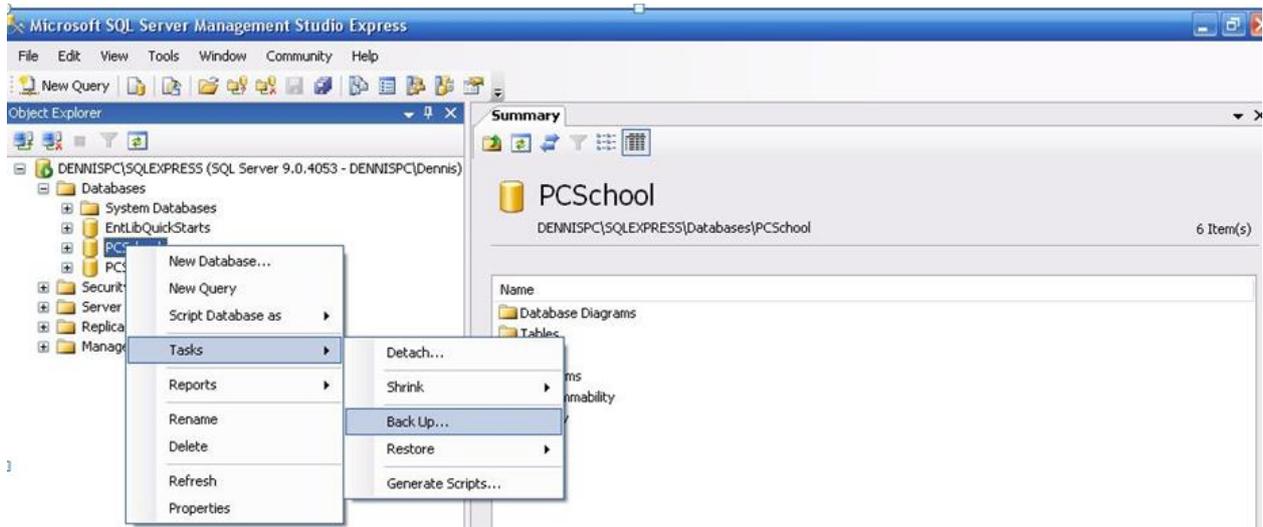
Snapshots are generally used for reference purposes, once created, they should be Backed up with their current name (e.g. CURR2013) and stored in a separate location in case of catastrophic server failure. If used for reference only, they do not need to be backed up like the live databases however check with your administrative staff as it is possible to make changes with them.

SQL Database backup from within the SQL Server Management Console.

- | | |
|-----------|---|
| 1. | Log on to the SQL server in the Management studio |
|-----------|---|



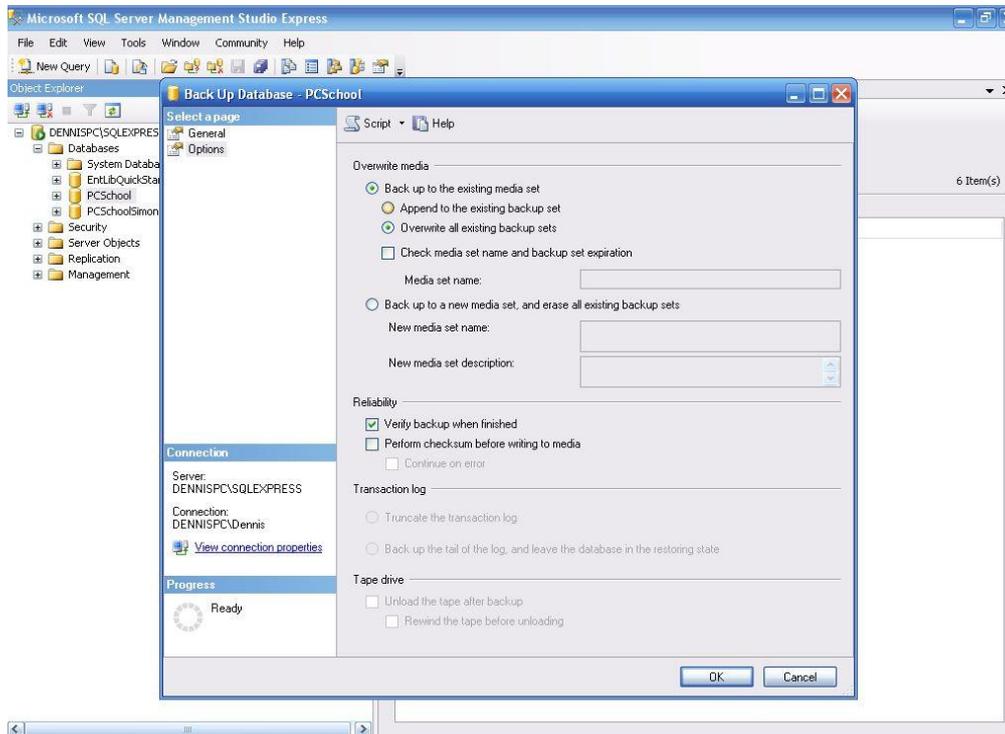
- | | |
|-----------|---|
| 2. | Right click on a Database e.g. PCSchool – Tasks – Backup (as per screen shot) |
|-----------|---|



This process will load up the “Backup database selection interface:

3.	Source: Database: select which database to backup i.e. PCSchool
4.	Backup type: Full
5.	Backup component: Select - Database
6.	Backup set: Name - PCSchool-Full Database Backup
7.	Backup set will expire: After – select 0 days
8.	<p>Destination: Normally you can have a single Backup file name for each database and every time overwrites the same backup.</p> <p>Or You can select different Backup file for each time (with respect to the date time). In this case, you need to “Remove” the current “Destination path” and press add to select a new folder or file name.</p>
9.	OK

Once it's done, go to the "Options" on left side panel.



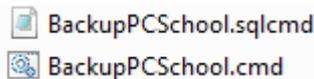
1.	Select – Overwrite all existing backup sets
2.	Select - Verify backup when finished
3.	OK (This will start the Database Backup)

Backing Up Using A Script File

The following script allows a backup to be automated from outside of the SQL Management Server. The example script maintains a 7 day cycle, however this script can be modified to increase/decrease the number of days maintained.

Download the following file and extract it into the location on the SQL Server you wish to create the backups. It is recommended that this is on the root level of the drive in a folder without spaces to ensure the script functions correctly (E.g. C:\SQLBackups)

<http://www.pcschool.net/download/backupscript.zip>



Once extracted, both files will need to be edited. The BackupPCSchool.cmd file also needs to be set up as a scheduled task, run at an interval you wish to make the full backup. A daily backup is recommended. By default, this script will maintain 7 full backups, so ensure you have enough storage space to cater for this. When editing these files, replace the square brackets with your own details. Below is an example based on the path mentioned above with pcschool being the main database, ADRIANSERVER the SQL Server name, pcschool the SQL user with pcspassword the pcschool SQL user's password. Changes you make are in bold>.

BackupPCSchool.cmd

```
REM Backup the PCSchool SQL Database keeping previous 7
echo on
REM Rename previous backups
del "C:\SQLBackups\PCschool_7.bak" /q
ren "C:\SQLBackups\PCschool_6.bak" "PCschool_7.bak"
ren "C:\SQLBackups\PCschool_5.bak" "PCschool_6.bak"
ren "C:\SQLBackups\PCschool_4.bak" "PCschool_5.bak"
ren "C:\SQLBackups\PCschool_3.bak" "PCschool_4.bak"
ren "C:\SQLBackups\PCschool_2.bak" "PCschool_3.bak"
ren "C:\SQLBackups\PCschool_1.bak" "PCschool_2.bak"
ren "C:\SQLBackups\PCschool_0_Latest.bak" "PCschool_1.bak"
```

```
REM Remove any log files greater than 10 days old
Forfiles /p C:\SQLBackups /m *.log /d 10 /c "cmd /c del @file"
```

```
REM Perform backup
sqlcmd -S ADRIANSERVER -U pcschool -P pcspassword -i
C:\SQLBackups\BackupPCSchool.sqlcmd -o C:\SQLBackups\output.log
```

BackupPCSchool.sqlcmd

```
BACKUP DATABASE pcschool TO DISK = N'C:\SQLBackups\PcSchool_0_Latest.bak' WITH
NOFORMAT, NOINIT, NAME = N'PcSchool-Full Database Backup', SKIP, NOREWIND,
NOUNLOAD, STATS = 10
GO
```

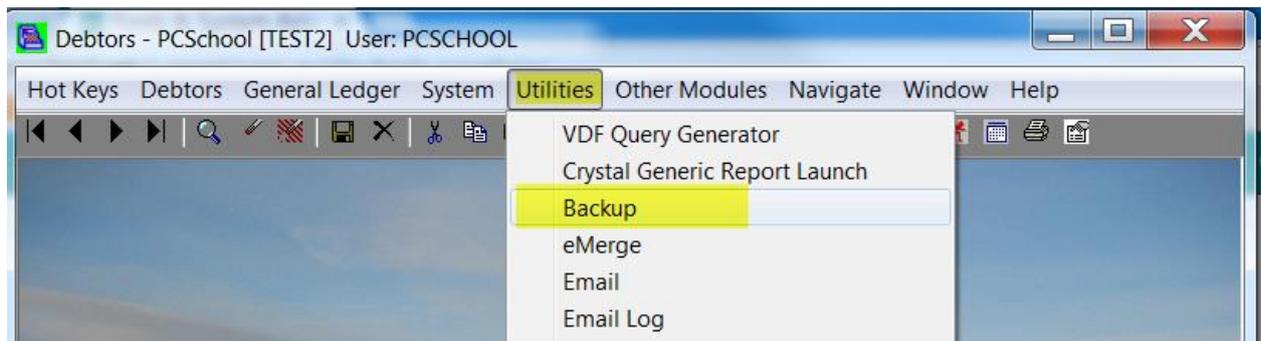
Backing Up Within PCSchool

Given the appropriate security, users are able to backup any particular table through the: Utilities->Backup option (this creates a zip file containing the selected tables with a corresponding file name to the table - with a .tmp extension)
(In reality, this is a .csv which can be opened within Excel or any CSV editor)

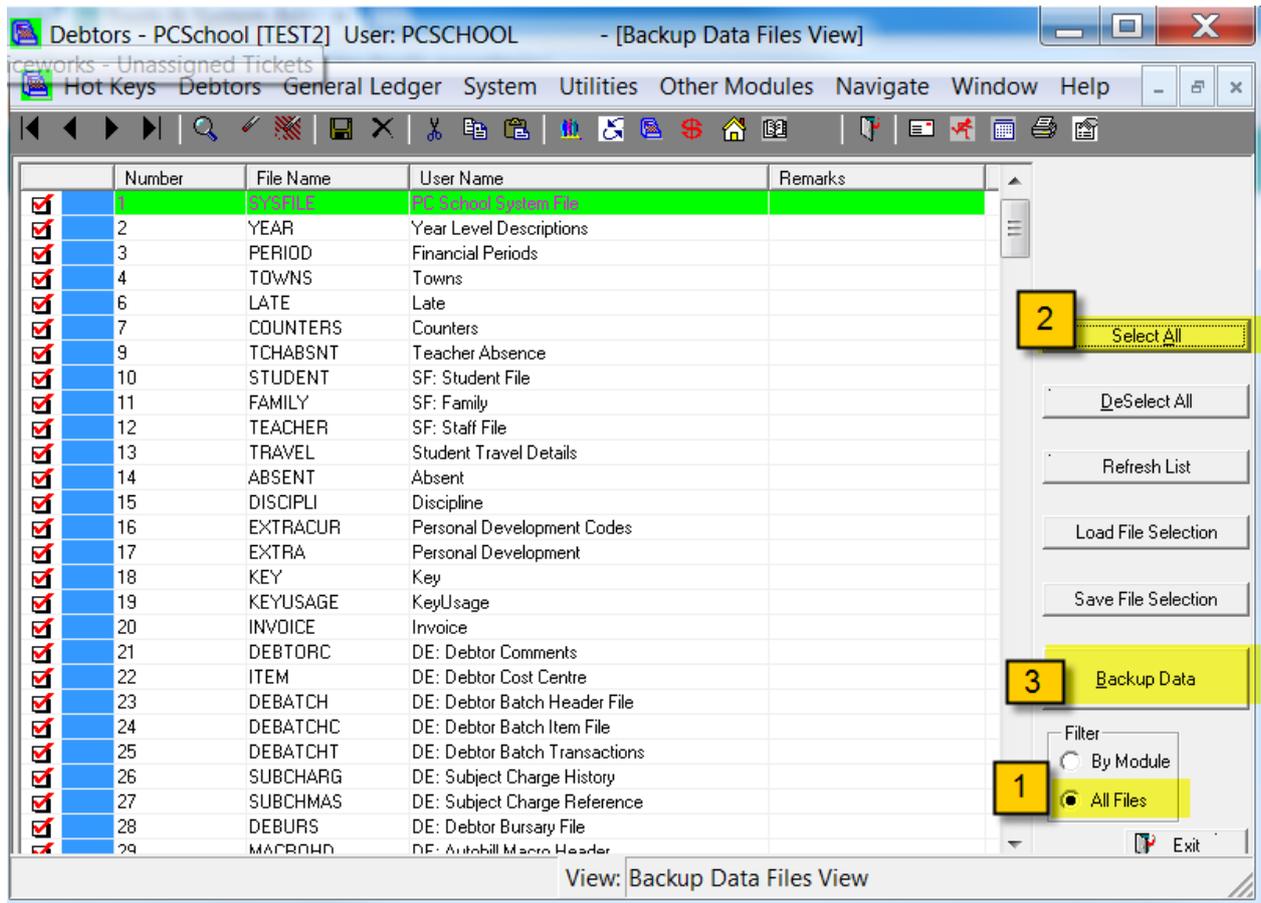
When creating a Backup, it does not over-write any .tmp files that have been created by the Export process, instead creating a temporary file with **.time** being the file name extension.

How to create a Backup within PCSchool

1.	Utilities - Backup
-----------	--------------------

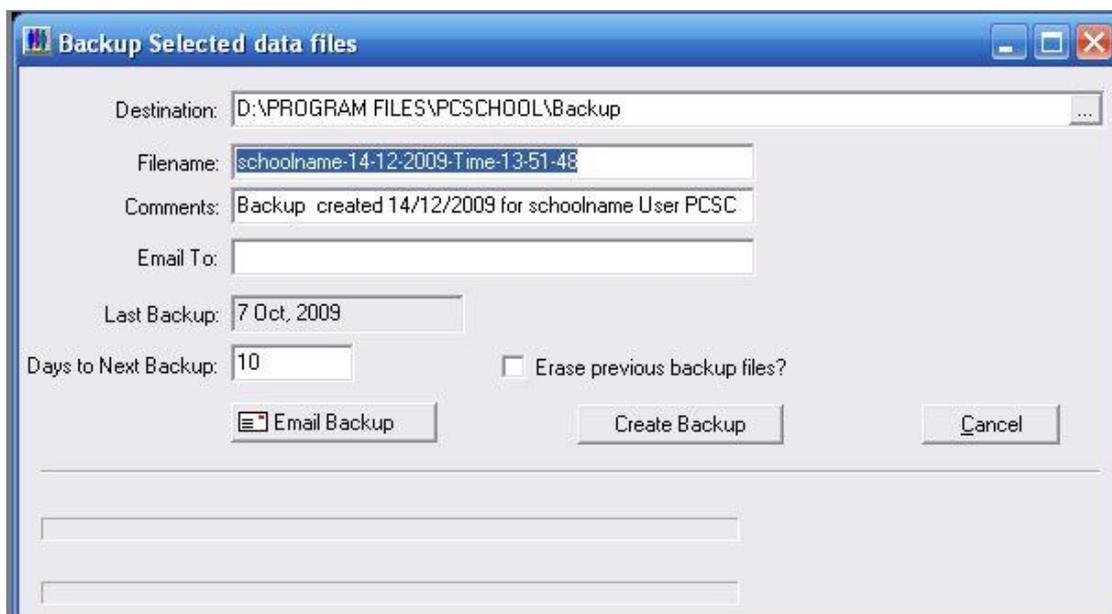


2.	Select – All Files
3.	Select All
4.	Backup Data



This process may take some time, and once it's completed, it will show the below screen asking where to copy the backup to.

1.	Destination – (By default it's copied to the “Backup” folder inside the work area folder.) This can be changed
2.	File Name – (The backup files are zipped and has the time stamp on the file name) This can be changed if required
3.	Select - Create Backup



4.	It is critical that you check that this file has been created. The logged in user must have permission to write to the default location, or this needs to be changed prior to pressing the "Create Backup" button. After completion, ALWAYS browse to the location to check that the file is present.
5.	This process can be repeated on different work areas.

Export files

"Export" each table from PCSchool under the Utilities->Data Import/Export. When exporting a table, a file with the matching table name is created with a .tmp extension.

The files are saved in the corresponding work area folder of the "PCSchool" folder, with the Main Workarea being saved within the "Data" folder.

Restoring from a Backup

As well as a complete restoration from a Backup, it is possible to restore a Backup into a separate Workarea, then extract and reimport data at a table level. This is performed when an error has occurred in a particular area of PCSchool which does not impact on others. Please contact PCSchool support staff for advice prior to restoring data.