

# Nova-T4 in SQL mode

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# Context and Overview

## ***Nova-T in STAR mode***

Like earlier versions, Nova-T version 4.80 can be used in STAR mode and in Nova mode, linking to student data held in STAR DBase tables or in the Nova student database. However, version 4.80 can also function in “SQL mode” – i.e. it can link directly to data held in SQL tables. Versions of Nova-T earlier than version 4.75 were not able to read any data from SQL, nor to export to SQL the data created in Nova-T. Instead, Nova-T could be used in STAR mode. In STAR mode, it is possible to

- (a) read student personal data held in the STAR DBase files
- (b) reconcile subject, teacher and room data held in DBase files with corresponding data held in Nova files (by import or export if necessary)
- (c) export classes created in Nova-T to DBase. Some of the information transferred exists in Nova (year, subject, main teacher, class label) and other information is added at the time of export (start date, end date, level, SIMS class name)
- (d) export instances of classes timetabled (period, teacher, room)

The data exported from Nova to DBase files is visible in MIDAS and is available to other DBase modules (Assessment Manager 5 etc.) It is transferred to SQL tables by Core Integrator, and so becomes available to SQL modules (Assessment Manager 6, Lesson Monitor etc.)

## ***Nova-T in SQL mode***

In the long term, using Nova-T in STAR mode is not satisfactory, for two reasons:

- (a) to transfer academic data created by Nova-T from DBase to SQL, it is necessary to rely on Core Integrator. But when the new editing functionality in SIMS .net (i.e. STAR .net) comes into use, Core Integrator will no longer be used.
- (b) student academic data created in Nova-T can only in part be stored in the DBase tables, which do not hold the resolution of clashes on a student’s timetable, nor regular planned non-attendance at certain lessons. These aspects of a student’s timetable (collectively known as “timetable exceptions”) are therefore lost if information is transferred from Nova-T to SQL via DBase tables.

Instead, the export of data from Nova-T to SQL must be direct, complete, and independent of Core Integrator. And in order to generate student lists and timetables, Nova-T will need to read student personal and academic data held in SQL – i.e. to operate in “SQL mode”. In this mode, however, it is *not* used to edit any student data.

## Nova-T4 and Academic Management

This present version of Nova-T provides SQL mode, but only if Core Integrator has been switched off – otherwise it cannot convert STAR mode to SQL mode. It can of course be used in STAR mode and in Nova mode, like previous versions of Nova-T.

In SIMS .net it is possible to edit student membership of bands and classes, and also student timetable exceptions. However, courses at present are created from classes in the same manner as with Core Integrator, and students belonging to a class are assigned membership of the corresponding course automatically.

Creation of independent courses, editing of student course memberships, and the possibility of students on more than one course belonging to the same class – all these will be introduced in a later version of SIMS .net.

### ***Maintaining dated records***

SQL is a “historical” system - most of the information stored in the SQL database is date-stamped. For example, each class has a start date and an end date; so do scheduled class periods, and assignments of teachers, rooms and students to classes. Even if a school decides to change its timetable cycle – say from a forty-period week to a sixty-period fortnight, the date from which the new cycle operates is recorded, so that queries about a student’s timetable or the membership of a class can be answered for any chosen date.

In contrast, Nova-T4 (and in due course Nova-T6) holds a “snapshot” of the data as it exists at a moment in time, and although this snapshot may persist for some weeks or months or even for a whole year before anything changes, Nova-T does not record the period of validity of this data.

There are various difficulties associated with maintaining a historical system from a snapshot, some obvious and others less so. They arise because a common start and end date must be attached to all the data being exported, and this may overwrite other records in SQL to which different date ranges apply.

The start and end date problems only directly arise with the curriculum plan and the timetable data. Student class membership assignments and student timetable exceptions are edited in SIMS .net, not in Nova-T4, so they can be given correct start and end dates. But there is still a potential conflict between the date range of a student’s class membership and the dates between which the class itself exists.

# Creating a link between Nova-T4 and SQL

## *Preparing for the link*

Nova-T4 cannot change a STAR mode directory to SQL mode unless Core Integrator has been switched off and SIMS .net is being used to edit student data. If SIMS .net is being used in read-only mode, Nova-T4 will only work in STAR mode and Nova mode, not in SQL mode.

If you want to examine the Nova-SQL links, you must first ensure that SIMS .net is installed in editing (read/write) mode.

It is very desirable to ensure that the lists of teachers and rooms held in Nova-T and in DBase correspond, before you perform a final DBase to SQL data conversion and switch off Core Integrator. You can do this before or after installing Nova-T4, but you should attend to this before attempting to connect Nova-T to SQL. The requirements are described starting on page 11, “Mismatches between teachers” and “Mismatches between rooms.”

## Installing Nova-T4

Install Nova-T in the usual way – this will mean that NOVAT.EXE is placed in the SIMS directory, or in the SNOVA\NOVAT directory, or both. Run Nova-T and check **Help|Technical Information** to see that the installed version is the latest version.

## Checking the Document Server

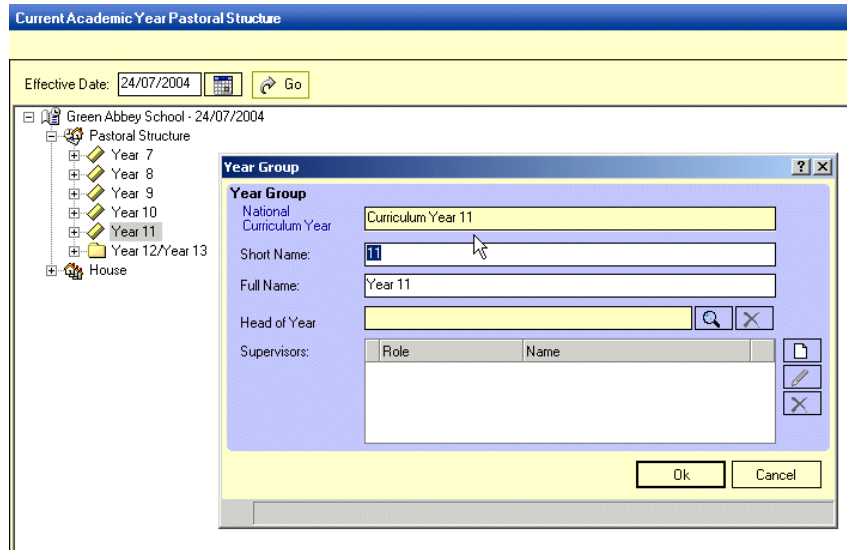
As part of the process of installing SIMS .net, you will have set up a Document Server. Select **Tools|Setups|Document Management Server** in SIMS .net to check that this is working properly.

## Checking National Curriculum Years

To transfer student academic data successfully from Nova-T to SQL, it is necessary for year groups in Nova to be matched to the National Curriculum years (NCyears) in SQL.

For many schools, this will present no problem, since the export process will automatically match year numbers in Nova (on the extreme left of the **Plan|Years and Bands** window) to NCyears in SQL. This chapter illustrates an example where some editing is necessary to achieve correct matching. Identifying NCYears in SQL

Select **Focus|School|Pastoral Structure|Current Structure** in SIMS .net and click the **Go** button. Right-click one of the years and select **Properties** from the pop-up menu. A dialog will appear which displays the NCYear of the year you selected:



In this diagram, it can be seen that the NCYear of year 11 is (quite appropriately!), 11.

By the same method, check the NCYear of the other years.

### Editing NCYears in Nova-T

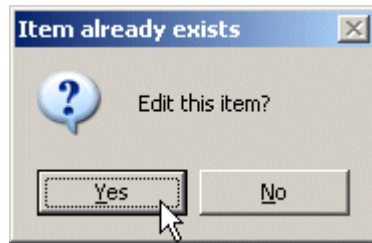
In Nova-T, select **Plan|Years and Bands**.

	Name	Head	Bands	Site A	Site B	Site C	Site D	SGroup	NCYear	Status
1:	R1	---	12	OK	OK	OK	OK	P	1	---
2:	IV	---	12	OK	OK	OK	OK	P	2	---
3:	R2	---	12	OK	OK	OK	OK	P	3	---
4:	V	---	12	OK	OK	OK	OK	P	11	---
5:	L6	---	12	OK	OK	OK	OK	P	5	---
6:	U6	---	1	OK	OK	OK	OK	P	6	---
7:	7	---	1	OK	OK	OK	OK	L	7	[Del]
8:	8	---	1	OK	OK	OK	OK	L	8	[Del]
9:	9	---	1	OK	OK	OK	OK	L	9	[Del]
10:	10	---	1	OK	OK	OK	OK	G	10	[Del]
11:	11	---	1	OK	OK	OK	OK	G	11	[Del]
12:	12	---	1	OK	OK	OK	OK	A	12	[Del]
13:	13	---	1	OK	OK	OK	OK	A	13	[Del]
14:	14	---	1	OK	OK	OK	OK	E	14	[Del]
15:	15	---	1	OK	OK	OK	OK	E	15	[Del]

In this illustration, the year which should be matched to NCyear 11 in SIMS .net is named V. The difference in name is not important; the reason why this year cannot be matched automatically is that the year

named V is year number 4, not year number 11. To ensure correct matching, the value in the NCYear column on the right is being changed from 4 to 11.

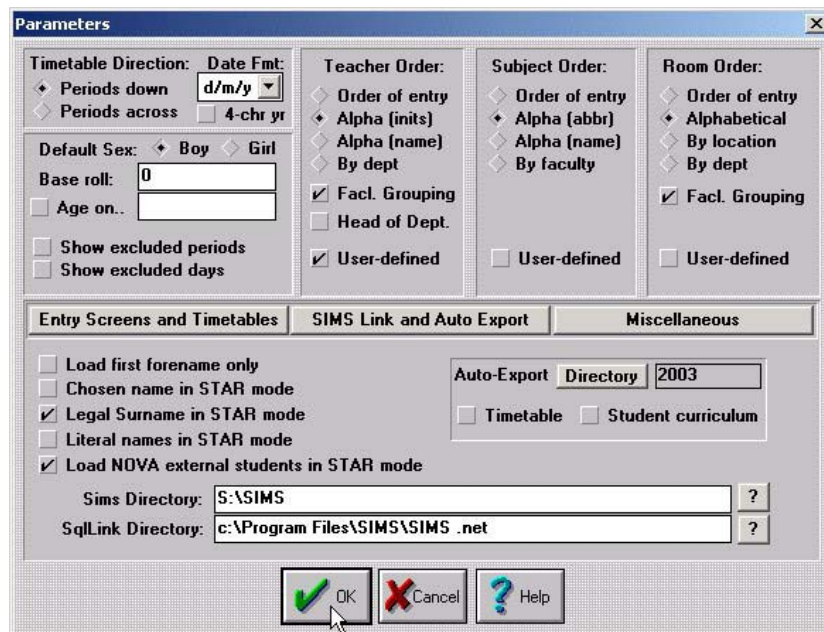
There is a potential problem, however, because two years cannot have the same NCYear value, and there is already a year (number 11) with an NCYear = 11. For this reason, after you have typed the value 11 and press **Enter** or an arrow key to confirm your entry, a warning message will appear:




When you click Yes, the cursor will jump to the year 11 row so that you can change the NCYear value there to something else (If the year is not going to be used, it doesn't matter what name you choose!) Afterwards, you can edit year 4 as you wished.

### Locating the SIMS .net installation folder

In Nova-T, select **Settings|Parameters** and click on the “SIMS Link and Auto Export” button in the centre of the window.



In the new entry box labelled “SqlLink Directory”, enter the pathname of the SIMS .net installation folder (this is the folder which contains PULSAR.EXE and SQLLINK.EXE) and close the **Settings|Parameters** dialog.

 Use the browse button to locate this folder if you wish.

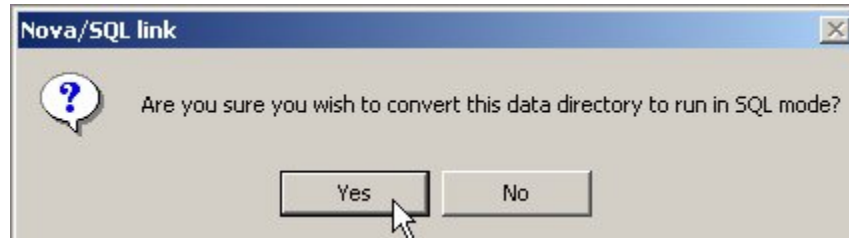
If you use the browse button, you may not be sure how to choose between (e.g.) C:\Progra~1\SIMS~1 and C:\Progra~1\SIMS~2. You can use the command DIR /X at a DOS prompt in the directory C:\Program Files to distinguish between these.

## Converting from STAR mode to SQL mode

This process exports curriculum data and timetable data (including student assignments) from Nova-T to the SQL database, and enables Nova-T to read student data from SQL instead of from the DBase files.

### Connecting Nova-T to SQL

Select **File|Convert to SQL mode**, and click **Yes** on the resulting dialog:



While Nova-T is communicating with the SQL database, you will see the “Load STAR” NovalCon change in colour and appearance. It is temporarily replaced by the “SQL link active” NovalCon.



**Load STAR**  
NovalCon



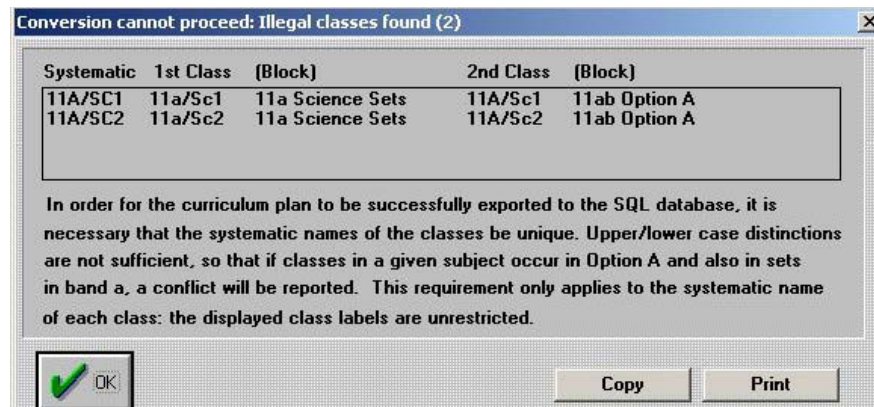
**SQL link active**  
NovalCon

If you do not see this change, check **Settings|Parameters** to make sure that the correct SIMS and SqlLink paths are entered. If there are no errors, the progress of the export will be reported – see “Successful data conversion”, page 13.

### Data integrity

A conversion (transfer) of academic data from Nova-T to the SQL database is only possible in the absence of certain conflicts or anomalies. Most of the potential problems can only be identified after a connection has been made to SQL, but two are checked and reported immediately, if they exist. These are concerned with groups and with classes that SQL perceives as not being unique.

The following example relates to classes :



It is unfortunate that the SIMS implementation of Microsoft SQL does not

distinguish between upper-case and lower-case letters! Here, the two classes 11a/Sc1 and 11A/Sc1, clearly distinct in Nova-T, would be indistinguishable in SQL.

It is essential that each class has a unique systematic name (made from the year, block or group ID, subject code and set number.) No problem is caused by giving two classes the same *label*, as long as the systematic names are distinct.

So a possible resolution of the problem in this example would be to select a different identifier for the block **11ab Option A**. If the block identifier were Z, SQL would not confuse the classes with those belonging to the block **11a Science Sets**, and you could still give them labels 11A/Sc1 and 11A/Sc2.

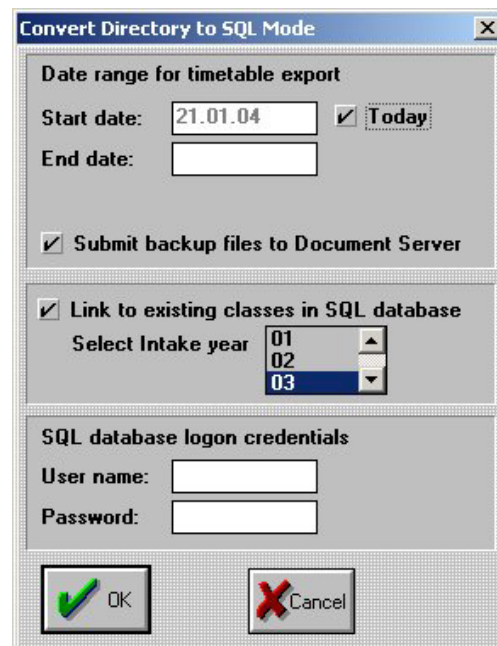
If you encounter error messages of this sort, check the block identifiers of the blocks causing the problem, and be prepared to alter them. If you are using Modelling and Construction, you will need to make the changes to block identifiers there as well as in Nova-T

### Setting parameters and logging on to SQL

The most common settings are the defaults provided.

If Core Integrator has been used up to now to transfer timetable data to SQL, you should keep the tick on “Today”, provided that the data transferred earlier by Core Integrator is reliable.

(Some schools may have created suspect data in SQL – e.g. by recovering Nova-T data from the “wrong” backups before exporting to DBase and then using Core Integrator to transfer the data to SQL.)



Alternatively, you might need to consider entering an earlier start date, but remember that “today’s” timetable may not be correct for earlier dates, and you are quite likely to lose older Lesson Monitor data if the curriculum plan and timetable have changed.

You *must* enter an end date (of course it should be later than the start date!) This would normally be the end of the summer term.

If the tick is removed from “Submit backup files to Document Server”, (*not* recommended!) then timetable data can be transferred to SQL, but not read back again into Nova-T.

**Important!** The check box “Link to existing classes in SQL database” should be ticked, so that as far as possible, classes sent from Nova-T will be identified with those sent previously by Core Integrator. If the tick were removed (only to be done when specially advised) then a new class record would be created for each class, with consequences for other modules.

The “Intake year” you select will determine which classes Nova-T will transfer, and which classes in the SQL database the program will attempt to match. If the intake year selected is 03, then classes will be those previously transferred to 03CLASS.DBF.

To log onto the SQL database, you must enter in this dialog the username and password you would use for SIMS .net

If you click **Cancel** on this dialog, the process will be terminated. If you click **OK** but are dissatisfied and wish to run the conversion again, you can follow the procedure described on page 13, “Recovering from an error”.

### Possible error reports during and after logging onto SQL

Several possible error messages concern dates –

- (a) the start date is later than the end date
- (b) the start date does not lie within an academic year
- (c) the end date is after the end date of the academic year to which the start date belongs
- (d) some aspect of the timetable cycle definition (number of days per cycle, number of periods per day, or the timing of particular periods) changes between the start and end dates.

The first three errors are easily avoided if care is taken in entering the start and end dates; the fourth is rather unusual, because schools do not often change their timetable cycle definition – especially in the middle of an academic year. If this has happened, the solution is to do separate exports for each timetable cycle (from the appropriate Nova-T backups or timetable directories.)

- (e) This problem will also occur if no cycle definition exists in SQL for all or part of the date range selected. A dialog will appear to enable you to create one – see “Creating a new timetable cycle definition in SQL”, page 23.
- (f) A similar error will be reported if either the number of days in the cycle or the number of periods in the day, as recorded in the SQL database, does not match the corresponding number of days or periods recorded in Nova-T, even though SQL has only one cycle definition within the date range selected.
- (g) An error message will appear if a year group is found to exist in Nova-T which doesn’t exist in the SQL database, or if a year group is named differently in Nova-T and in SQL. In either case, the message is



- (h) An error would be reported if a class being transferred from Nova-T and a class in SQL with the same details (year, subject, block or group identifier and set number) belong to different blocks:



This should be a very rare occurrence! One way in which it could happen is if an attempt were made to transfer data from two schools into the same database. At present, Academic Management does not support more than one school timetable or one timetable cycle definition existing concurrently.

Note that only one instance of a class belonging to two blocks will be reported; if you recover from the backup file #SQLCONV.NVA (see page 13, “Recovering from an error”), correct this class by changing the identifier of the block it belongs to in Nova-T, and run the conversion again, you might get a similar error message relating to another class. So in attempting to fix the error, you should consider how the mistake has arisen, and bear in mind the possibility that other classes may be similarly misplaced.

- (i) An error may be reported if there is a mismatch between teachers in Nova-T and in SQL, or between rooms in Nova-T and in SQL.

### Mismatches between teachers

Discrepancies between the Nova and SQL teacher lists may be of five types. Not all of them cause a problem.

- (a) A teacher exists in Nova who doesn't exist in SQL. This may be reported, but doesn't prevent the export.
- (b) A teacher is recorded in both Nova and SQL, but the teacher codes differ. This doesn't prevent the export, but classes are transferred to SQL without a teacher.
- (c) Differences between the names used in Nova-T and in SQL (e.g Mr F. Bloggs and Mr Fred Bloggs) do not cause any problems.

Note – there is an unlikely possibility that the difference in names signifies a real distinction – there are two different people, who at different times during an academic year have had the same initials.

- (d) A teacher recorded in Nova-T exists in SQL, but has not been marked as a teacher.

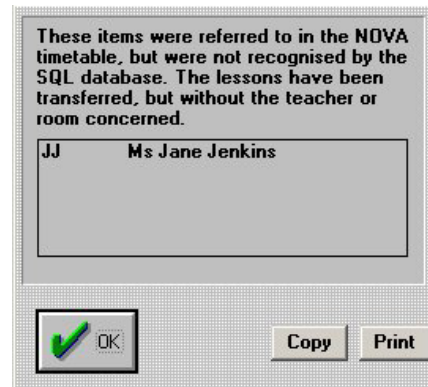
- (e) A teacher exists in SQL who doesn't exist in Nova. This causes no problem for the export, but the teacher must be entered in Nova-T (with the same teacher code) in order to be used.

Mismatches between teachers in SQL and in Nova-T are only of significance if the teacher in Nova has been assigned to a class on the curriculum plan. Teachers who have been entered in Nova-T but not used are ignored.

It is best to avoid problems when a link is formed between Nova-T and SQL, by reconciling Nova-T and DBase before Core Integrator is turned off:

- (a) if there are teachers in Nova who don't yet exist in DBase, export them, and use STAR or Personnel to add additional information about them as required. Alternatively, if the teachers in Nova are in fact no longer on roll, replace them or delete them.
- (b) if there are teachers in DBase who don't yet exist in Nova, import them. Alternatively, use STAR or Personnel to record them as having left, or remove their "teacher" status if this is a mistake.
- (c) if a teacher has different codes in DBase and in Nova, edit the details in Nova-T or else in STAR or Personnel to make them correspond exactly.

A typical error report of teacher mismatches is illustrated on the right. Although this example only refers to one teacher, the program does list all the teachers mismatched, so it is easy to trace and correct the error – see "Recovering from an error" on page 13.



### Mismatches between rooms

Rooms behave very much like teachers in the conversion process, except in the detail of matching, which depends on how many characters there are in the SQL room code:

if there are one, two or three characters, these are matched with the room code in Nova-T

if there are four characters, these are matched with the room name in Nova-T.

A room present in SQL but not in Nova-T causes no problems, but obviously cannot be used; if it is needed, it must be entered in Nova-T.

A room present in Nova-T but not in SQL will also cause no problems for the export unless it is actually used; if it is, an error report like the one for teachers (see page 12) is given, but the export will proceed. The remedy is to add the missing room in SQL.

## Recovering from an error

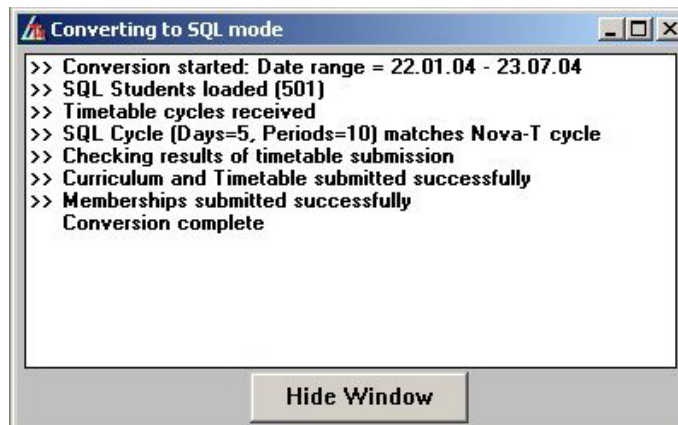
If any errors are encountered after the “Converting to SQL mode” window appears, the data transfer will be stopped so that you can make necessary adjustments, and try again. The steps are

- (a) recover the active timetable directory from the backup named #SQLCONV.NVA, which was made automatically before the conversion process started. This restores the status of the directory to STAR mode.
- (b) make whatever corrections to the Nova or SQL data may be necessary, according to the error report.
- (c) select **File|Convert to SQL mode** and attempt the conversion again.

The conversion process stops after the first error discovered, so it is possible that the conversion will still fail at a second attempt, if more than one fault existed.

## Successful data conversion

As the transfer takes place, various stages are reported until the process is complete; at the end of the process if there are no errors the report may resemble the following example:



The continuing progress of the transfer is indicated by the clock symbol, and whole transfer should take less than 10 minutes, and perhaps as little as one or two minutes for a small to medium size secondary school. When the conversion is complete, the timetable directory will have become SQL mode (check using **File|Directory** and selecting “View existing timetable directories” – it should be labelled **Q** (SQL mode) rather than **S** (STAR mode) or **N** (Nova mode.) The menu item **File|Convert to SQL mode** will have been replaced by another, **File|SQL Link Transfer**.

# Running Nova-T in SQL mode

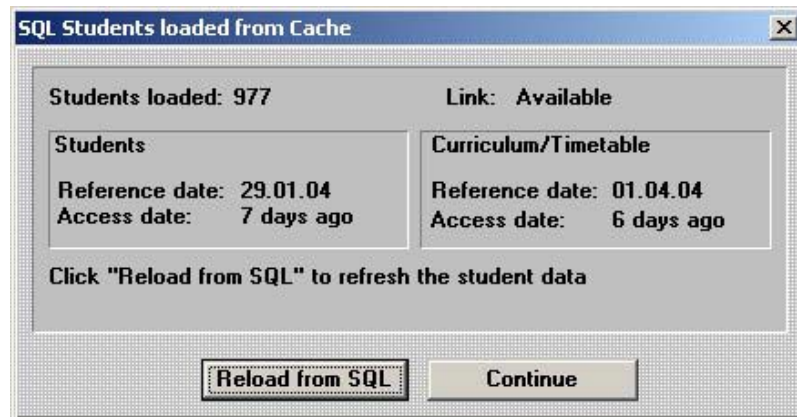
## Differences between SQL mode and STAR mode

Many changes occur when a STAR mode directory is converted to SQL mode:

- (a) When you select any of the **File|Directory** menu items, the directory will be labelled **Q** (for SQL mode) rather than **S** (for STAR mode.) *N.B. Nova mode directories are now labelled N.*
- (b) On the **Plan** menu, the items “Student Bands”, “Student Curriculum”, “Single student entry” and “Tabular student edit” are greyed out. The Novalcons for the last two processes are also greyed out, as are the Novalcons for Nova-STAR import/export, for running Nova-P5 (if installed) and for displaying the student emergency screen.
- (c) On the **File** menu, the item **SQL Link Transfer** appears in place of **File|Convert to SQL mode**, and the “SQL Link” Novalcon replaced “Load STAR”.
- (d) The students accessed by items on the Reports menu are the students in the SQL database. The functionality offered in this section differs from what is available in STAR mode – see “Reports in SQL mode” on page 18.

## Starting Nova-T in SQL mode

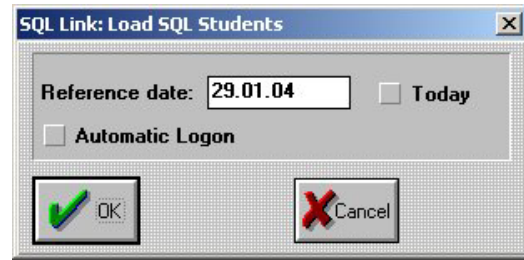
If the default timetable directory is a SQL mode directory when you start Nova-T, or if you start up Nova-T in a STAR mode or Nova mode directory and then switch to a SQL mode directory, the program will load students from the cache – a local copy of the student data made when the data was last loaded from SQL.



The program reports how many students were found (977 in this example), the date to which the data in the cache refers, and how many days “out of date” the data is. In this example, the student data being loaded on 16<sup>th</sup> May was 7 days old, having previously been loaded from SQL on 9<sup>th</sup> May; the data itself referred to 29<sup>th</sup> January. The timetable

data is a “snapshot” showing the curriculum and timetable as they were on 1<sup>st</sup> April.

When Nova-T has access to the SQL database, you can choose to refresh the student list and create an up-to-date cache by clicking on the button **Reload from SQL**.



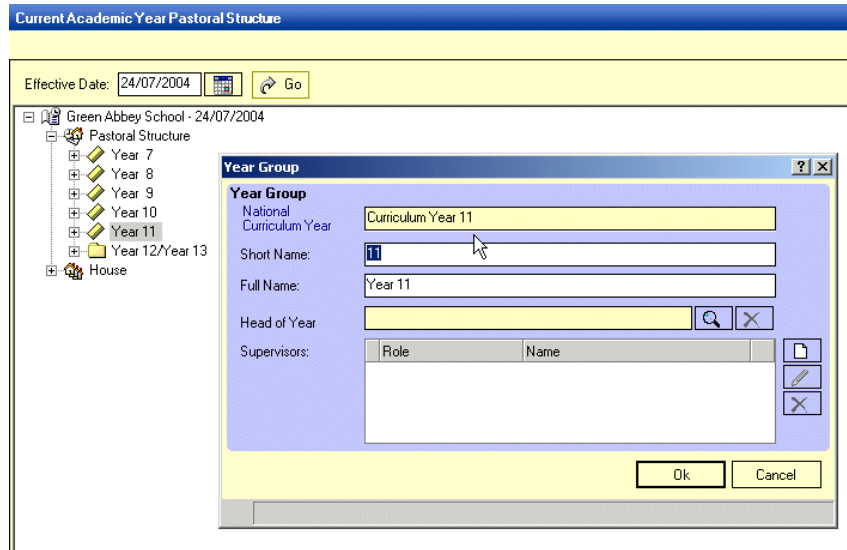
You will be able to choose a reference date for the students you are loading – this choice could decide whether a student who left the school part way through the year appeared in the student lists or not. If you tick the check box “Automatic Logon”, then your Nova username and password will be offered to the SQL database; otherwise you will be asked to enter your SQL username and password at this point.

Two possible reasons why the choice to refresh student data might not be offered are

- you are working on a satellite machine, so the network is not accessible
- the SQLLink directory path defined in **Settings|Parameters** (see “Checking National Curriculum Years
- To transfer student academic data successfully from Nova-T to SQL, it is necessary for year groups in Nova to be matched to the National Curriculum years (NCyears)in SQL.

For many schools, this will present no problem, since the export process will automatically match year numbers in Nova (on the extreme left of the **Plan|Years and Bands** window) to NCyears in SQL. This chapter illustrates an example where some editing is necessary to achieve correct matching. Identifying NCYears in SQL

Select **Focus|School|Pastoral Structure|Current Structure** in SIMS .net and click the **Go** button. Right-click one of the years and select **Properties** from the pop-up menu. A dialog will appear which displays the NCYear of the year you selected:



In this diagram, it can be seen that the NCYear of year 11 is (quite appropriately!), 11.

By the same method, check the NCYear of the other years.

## Editing NCYears in Nova-T

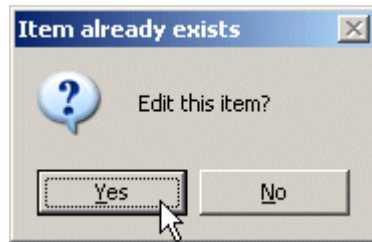
In Nova-T, select **Plan|Years and Bands**.

	NameHead	Bands	Site A	Site B	Site C	Site D	SGroup	NCYear	Status
1:	R1	12	OK	OK	OK	OK	P	1	---
2:	IV	12	OK	OK	OK	OK	P	2	---
3:	R2	12	OK	OK	OK	OK	P	3	---
4:	V	12	OK	OK	OK	OK	P	11	---
5:	L6	12	OK	OK	OK	OK	P	5	---
6:	U6	1	OK	OK	OK	OK	P	6	---
7:	7	1	OK	OK	OK	OK	L	7	[Del]
8:	8	1	OK	OK	OK	OK	L	8	[Del]
9:	9	1	OK	OK	OK	OK	L	9	[Del]
10:	10	1	OK	OK	OK	OK	G	10	[Del]
11:	11	1	OK	OK	OK	OK	G	11	[Del]
12:	12	1	OK	OK	OK	OK	A	12	[Del]
13:	13	1	OK	OK	OK	OK	A	13	[Del]
14:	14	1	OK	OK	OK	OK	E	14	[Del]
15:	15	1	OK	OK	OK	OK	E	15	[Del]

In this illustration, the year which should be matched to NCyear 11 in SIMS .net is named V. The difference in name is not important; the

reason why this year cannot be matched automatically is that the year named V is year number 4, not year number 11. To ensure correct matching, the value in the NCYear column on the right is being changed from 4 to 11.

There is a potential problem, however, because two years cannot have the same NCYear value, and there is already a year (number 11) with an NCYear = 11. For this reason, after you have typed the value 11 and press **Enter** or an arrow key to confirm your entry, a warning message will appear:



When you click Yes, the cursor will jump to the year 11 row so that you can change the NCYear value there to something else (If the year is not going to be used, it doesn't matter what name you choose!) Afterwards, you can edit year 4 as you wished.

- Locating the SIMS .net installation folder" on page 5) is invalid.

## **Working offline in SQL mode**

The cache created whenever Nova-T loads student general data from the SQL database is contained in a file SQLDATA.DAT in the active timetable directory.

This file is included in any backup made of the active timetable directory, and is therefore present on a satellite machine after data has been recovered from the backup file.

### Editing in offline mode

In offline mode, you can still make changes to the timetable, and if you are working on a satellite machine, your changes can be conveyed back to Nova-T on a network machine via backup and recover. Then, when you next connect to the SQL database, your changes can be transferred to SQL and will be visible in SIMS .net.

It is not advisable to modify the teacher database while working offline. If you need to add a new teacher, or edit the name of an existing one, the recommended method is to make the required changes Nova-T4 while connected to the network, and also in SIMS .net (or Personnel.) Make sure that the teacher has been assigned to at least one class on the curriculum plan, and export the curriculum and timetable to SQL.

### Transferring offline data to SQL

Run Nova-T on a network machine, and use **File|Recover** to read in the data from the backup prepared on the satellite machine. A message appears announcing the reference date and age of the data just loaded.

Before Nova-T recovered the backup data, it made an automatic backup (\$AUTO file.) If you decide that you don't after all want to transfer the data you have just loaded to the SQL database, select **File|Recover** and

recover data from the \$AUTO file. You can see which one this is from the date and time that it was made.

Now select **File|SQL Link Transfer** or click on the **SQL Link NovaIcon**. Select the radio button **Send Curriculum and Timetable to SQL** on the resulting dialog (see page 20), and click **OK** if you are sure that you want to transfer your offline changes to the SQL database.

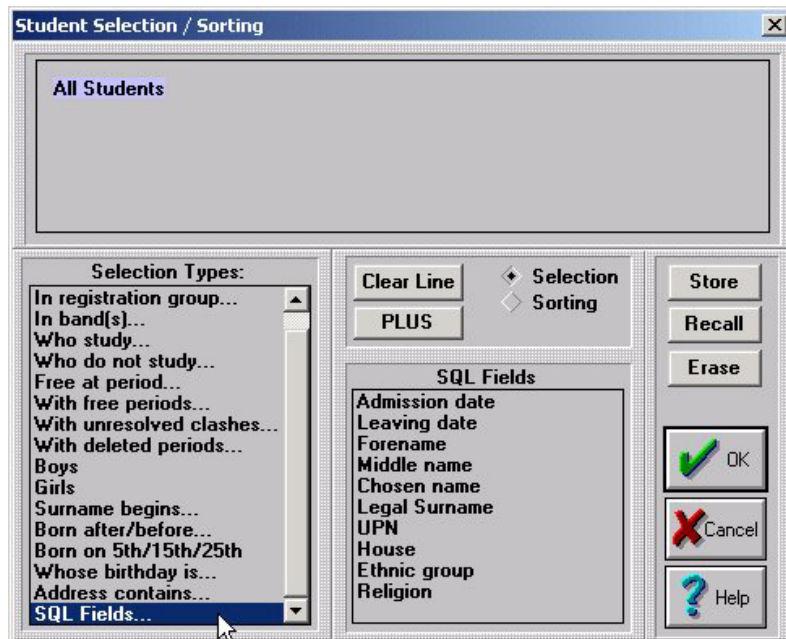
## Reports in SQL mode

General student lists, Registration Group lists, Class lists and Group lists from the Reports menu can be displayed and printed in SQL mode in much the same way as in STAR mode. However, there are some points of difference:

- (a) the columns offered for the data type “Base data” include both “Reg” and “Reg Group.” This is to provide alternatives where vertical registration groups are in use. Suppose that there is a vertical registration group named G which includes students from years 12 and 13, and one named A which serves only year 11 students. Because of the way that these groups are named in the SQL database, (G and 11A), it is necessary for Nova-T to provide these alternatives

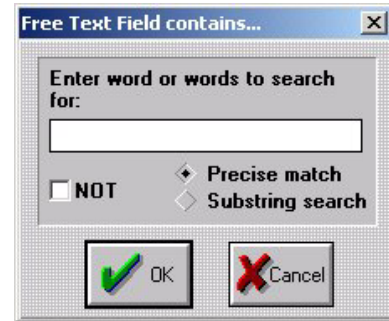
“Reg”	G	and	11A
“Reg Group”	12G or 13G	and	1111A

- (b) The data types for selection, sorting, and choosing columns all include “SQL fields” in place of “STAR fields.” An example is shown below:



- (c) The SQL fields available (other than Admission date and Leaving date) all behave as free text fields, even if in STAR mode they were list fields such as House, Ethnic group, Religion.

When selecting students by any of these fields, you can request a precise match (e.g. students with House = MORIARTY) or a substring search (e.g. students with House containing "OR".) Both searches ignore case, so that for example MORIARTY will match Moriarty.



Of course, the Reporting section of SIMS .net provides much more versatile reports including many more data fields. However, the reports in Nova-T (especially Class lists) may still be found useful for some purposes.

*Note* – Nova-T has no Form reports or Emergency screen in SQL mode.

## SQL Link data transfers

### *Preparing Nova-T4 to maintain the SQL database*

From time to time during the school year, it may be necessary to make changes to the timetable or perhaps to the curriculum plan. Usually you will be making these arrangements in advance of when they will come into effect.

The SQL database can store these changes with a start date in the future, and they will not interfere with anyone's view of "today's" data in SIMS .net. However, Nova-T records have no start date, so if you make changes in the current active timetable directory, anyone else who uses Nova-T to look at the timetable data will see your changes!

For this reason, once you have converted the current active timetable directory to SQL mode, it is *ESSENTIAL* that you make a copy of the directory and remember to use it for making future changes. The recommended procedure is

- (a) Select **File|Directory** and then **Create new timetable directory**
- (b) Enter a distinctive name of up to eight characters (e.g. 2004EDIT) for the new directory
- (c) In the "New Directory Setup" dialog, make sure that the **SQL Link** radio button is selected. and click on **Copy Timetable Data from the active directory**.
- (d) Answer **No** to the question "Should 2004EDIT also be the default directory on startup?"
- (e) Select **Settings|Timetable Colours** and click on the panel labelled "Background". Use the slide bars to choose a distinctive colour.  
This will provide a useful reminder to you of which directory you are working in (and also to others if they stray into the wrong one!)

In future, always answer **No** to the question about the startup default directory when you switch to your editing directory, or else others using Nova-T4 (e.g. the teacher who arranges cover) will unwittingly load the data from this directory and wonder what has happened!

As changes you have made come into effect, the current active timetable directory (e.g. 2004) can be kept up to date by refreshing the data from SQL with a reference date of "Today" – see "Loading the curriculum and timetable from SQL", page 21.

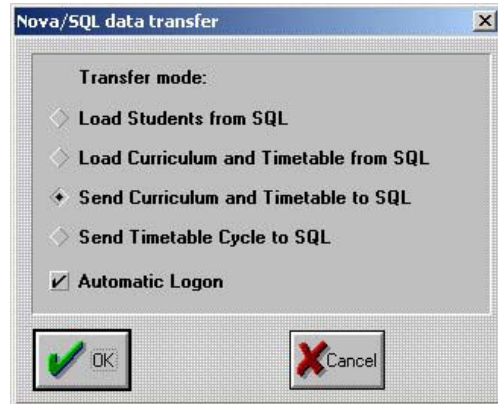
You should use the same routine to refresh the data in your editing directory (e.g. 2004EDIT), but using as a reference date the date on which your planned changes will come into effect.

### *Initiating data transfers*

Select **File|SQL Link Transfer** or click on the **SQL Link** NovaIcon. A dialog appears with various import and export choices:

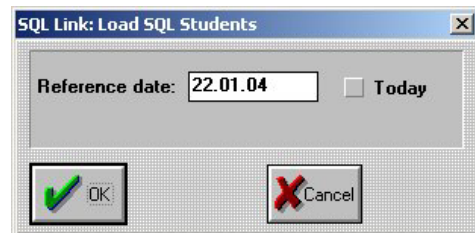
Access to the SQL database requires authentication, and if you tick the check box “Automatic Logon”, then the username and password you used to validate your access to Nova-T will be submitted to SQL.

If the check box is not ticked, you will be asked to supply your SQL username and password.



### ***Loading student general and curriculum data from SQL***

When loading students from SQL, you can enter a reference date, or tick the “Today” check box. As the student data is read in, it is written to the disk as the cache file, SQLDATA.DDA.



When you back up the active timetable directory, SQLDATA.DDA is included in the backup, so that student general data is available on a satellite machine when you recover from this backup.

### ***Loading the curriculum and timetable from SQL***

When you first create a timetable for an academic year using Nova-T, it is usual to transfer the curriculum plan and timetable to SQL with Start and End dates corresponding to the whole academic year. Later, changes relating to various date ranges may be made, but the first export ensures that for any date during the year, curriculum and timetable records will exist. To be able to load a complete “snapshot” picture of the curriculum plan and timetable later, a backup must be stored in the Document Server – see “Send Curriculum and Timetable to SQL”, page 25.

If you intend to edit the timetable for some interval of time during the academic year, you are recommended to

- (a) load a snapshot from SQL into Nova-T as it is recorded for the Start date. When you do this, the curriculum plan, timetable, and list of the students and teachers on roll are all imported.
- (b) make changes to the curriculum plan and/or timetable, as required
- (c) export the data back to SQL, quoting the Start and End dates required.

The export of data to SQL may create new records, but may also modify existing records, either curtailing them, extending them or combining them by changing their start and end dates.

## **Preparing for data export**

Timetable data can only be exported from Nova-T to SQL if

- (a) a Nova-SQL link has been established (see “Creating a link between Nova-T4 and SQL”, page 5 and “Starting Nova-T in SQL mode”, page 14.)
- (b) the timetable cycle definition in SQL operative at the date of the export corresponds to the timetable cycle in Nova-T.

### Timetable cycles in Nova-T and in SQL

A timetable cycle definition in SQL includes a description of the timetable cycle (number of periods in the day and of days in the cycle) and the start and end times of each period in the cycle. (*Note – early versions of some SQL products refer to the timetable cycle definition as a “Model” – this terminology will be phased out.*)

Unlike the STAR DBase system, the SQL database as used in SIMS .net can recognize excluded periods and display them on its timetables. Nova-T4 offers a choice whether to export excluded periods to SQL or not; this is only worthwhile if you have scheduled *classes* at excluded periods. Non-class codes are not currently exported to SQL, so if only non-class codes have been scheduled at the excluded periods, nothing will be shown on the SIMS .net timetables. If excluded periods or days in Nova-T *are* to be exported to SQL, the correct number of periods or days must exist in SQL’s timetable cycle definition.

Periods in Nova-T4 do not have start and end times, so the validation of the Nova-SQL link only checks the number of periods and days in the SQL timetable cycle definition against the number of periods and days in Nova-T.

The SQL database can hold many timetable cycle definitions, but only one can be valid on any given date. Each definition except the most recent has a start date and an end date, and the start date immediately follows the end date of the previous definition. The last (most recent) timetable cycle definition has a start date but has no end date until a new definition is created.

### When is a new timetable cycle definition in SQL required?

There are two reasons to create a new timetable cycle definition:

- (a) if the number of periods or days in the timetable cycle is changed. In Nova-T this will require a new timetable directory, and in SQL a new definition.
- (b) if the timing of the periods is changed without alteration to the number of periods. No change is required in Nova-T, and the link will still appear to be valid; nevertheless a new SQL timetable cycle definition is needed so that information displayed and calculated in SIMS .net and other SQL modules is correct.

Any timetable cycle mismatch in the number of days and/or periods is always reported when you attempt to export data from Nova-T to SQL.

No data is transferred, and an appropriate message is displayed – e.g. if the number of days or periods per day in Nova-T does not match the cycle definition in SQL :

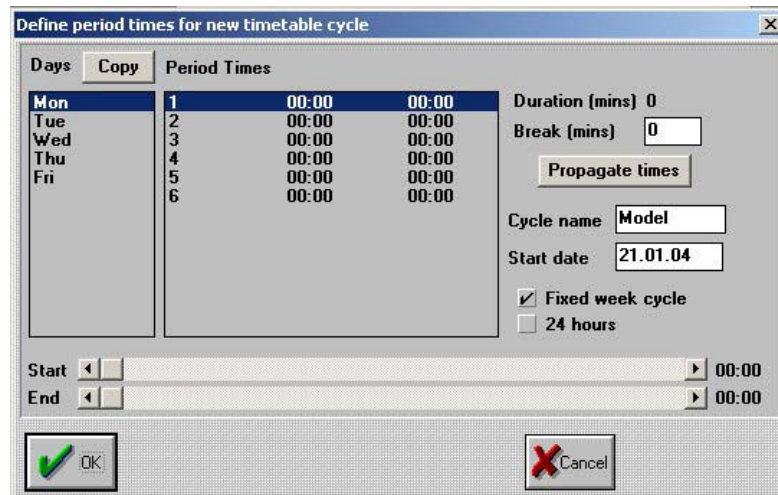


or if the period of time between the start and end dates chosen for the export includes two or more cycle definitions in SQL:



## Creating a new timetable cycle definition in SQL

To create a new timetable cycle definition, click the **SQL Link** button or select **File|SQL Link Transfer** and then choose **Send Timetable Cycle to SQL** from the resulting dialog. Click **OK**. A new dialog appears:



Use the **Start** and **End** slide bars, the “Break (mins)” field and the “Propagate times” button to enter the period times for Monday. For example – supposing that the times required are

Period Number	Start time	End Time
1	8.55 am	9.45 am
2	9.45 am	10.35 am
3	10.55 am	11.45 am
4	11.45 am	12.35 pm

5	1.55 pm	2.45 pm
6	2.45 pm	3.35 pm

then the steps are as follows:

- (a) Begin with period 1, and use the slide bars to set the approximate required time to appear on the right. You can adjust to the exact time by clicking on the small arrows at either end of the slide bars:



In this diagram, the start time has been set, and three mouse clicks are needed to change the approximate time 09:42 to the required 09:45.

If the time range offered by the slide bars (07:00 to 19:00) is insufficient, tick the check box labelled “24 hours”.

- (b) Click the “Propagate times” button. All the start and end times for Monday will be filled in, though only the times for periods 1 and 2 will be correct at this stage:

Period Times		
1	08:55	09:45
2	09:45	10:35
3	10:35	11:25
4	11:25	12:15
5	12:15	13:05
6	13:05	13:55

*Note* - If there is a time interval between every period (e.g. 5 minutes to allow for movement between lessons on a large school site), then you can enter this interval in the box labelled “Break (mins)”.

- (c) Click to highlight period 3, and enter the correct start and end times for this period. Then click the “Propagate times” button again. Repeat this process for period 5, after which all the start and end times will be correct:

Period Times		
1	08:55	09:45
2	09:45	10:35
3	10:55	11:45
4	11:45	12:35
5	13:55	14:45
6	14:45	15:35

Alternatively, you could enter 20 in the box labelled “Break (mins)”, highlight period 2, and click the “Propagate times” button; then change the 20 to 0, highlight period 3, and again click on the “Propagate times” button, and so on.

- (d) If the same times apply to the periods on other days, click the “Copy” button to set the same times for Tuesday, Wednesday, Thursday and Friday. If any day does not follow the Monday pattern,

highlight the day and enter the appropriate start and end times as before.

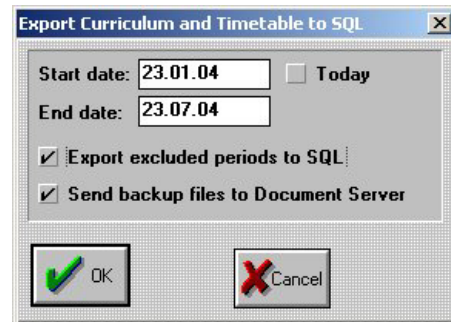
- (e) Enter a cycle name (it shouldn't be one you have used previously, but apart from that any name will do.)
- (f) Enter a Start date for the timetable cycle definition. It will be applied to the date you choose and all later dates, overwriting part or all of definitions exported previously, if they overlap.
- (g) If the cycle days fall into a regular place in the calendar (e.g. Mon on Mondays, Tue on Tuesdays, or for a two-week cycle, 1Mon and 2Mon on Mondays, etc.) then make sure that the check box labelled "Fixed week cycle" is ticked. However, if the cycle days are "Day 1", "Day 2", etc. and they do not fall on the same day each week, you should leave this box unchecked.  
*Note* - applying the timetable cycle days to the calendar (i.e. to actual days of each week in the year) is performed in SIMS .net. The menu path is **Tools|Academic Structure|Apply Timetable**.
- (h) Click **OK**.

## Send Curriculum and Timetable to SQL

Click the **SQL Link** button or select **File|SQL Link Transfer** and then choose **Send Curriculum and Timetable to SQL** from the resulting dialog. Click **OK**. A new dialog appears:

By removing the tick from the **Today** check box, you can enter any date range that you wish.

See "Date ranges for data exported from Nova-T4" on page 25 for some considerations governing the choice of start and end dates.



It is important to keep the tick on "Send backup files to Document Server", because the information stored there enables you to load from SQL into Nova-T a snapshot of the timetable at any date within the date range you have chosen. The information stored in the document server is equivalent to a backup of the active timetable directory and of the teacher database.

### Date ranges for data exported from Nova-T4

Because academic data records in SQL are historical, there must be a date range for the export so that the records transferred have start and end dates. A default date range is set automatically, with the following parameters:

- Start date = the date on which the export is carried out
- End date = the end of the current academic year, or the end date of the current SQL timetable

cycle definition, whichever is sooner

It is possible to edit these dates, and set a start date other than “today” and an end date earlier than the latest possible. However, care should be taken when choosing a start date *earlier than* “today”, because the changes could invalidate data created by other modules (e.g. Lesson Monitor.)

### Seeing your changes in Academic Management

The changes to the curriculum plan and timetable that you have exported will not be visible in the Academic Management screens until next time that SIMS .net is started. If SIMS .net is already running, then you should close it down and restart; Nova-T gives you a warning to this effect.

## Levels and Courses

The purpose of assigning levels to classes is to enable the creation of courses. A course is defined by a level and a subject, and currently the assumption is made that students belonging to all classes with the same subject and level are on the same course. A future release of Academic Management will provide an independent mechanism for defining courses, and the possibility of students assigned to different courses being in the same class.

It is important to understand that in this context, levels need not be *examination levels*, and may not correspond to them. There are several organisations that need course details from schools, including bodies which collect statistics and bodies responsible for funding; such organisations have requirements which may not correspond to the needs of examining boards. For this reason, only a few levels have been pre-defined in Nova-T, and schools are able to add to them other levels as needed.

Until now, Nova-T has assigned levels to classes only at the point of export (to DBase, or in version 4.75, to SQL) – the information was not recorded in the Nova-T data. In contrast, Nova-T4 incorporates levels as part of the curriculum plan, and levels can be assigned to the classes at any time.

### Assigning levels to classes

It is possible to assign a level

- (a) to all the classes in a year
- (b) to all classes belonging to a block
- (c) to individual classes.

If you wanted to assign the same level to most of the classes in a year, it would be convenient to use (a) to assign that level to all the year’s classes, and then use (b) and/or (c) to modify the assignments where necessary.

Select **Plan|Curriculum** and choose a year.

To assign the same level to all the year's classes, click on the "Year Level" button to display the "Select level" dialog.



To assign the same level to all the classes of a block, highlight the block and click on the "Block Level" button.



To assign a level to a single class, double-click on the block (or highlight the block and click on "Edit Block") in order to display the individual classes. Click on the "Show Class Levels" button. Now highlight the class required, and click on the "Class Level" button to display the "Select level" dialog. The levels displayed in the "Select level" dialog are contained in a text file (LEVELS.TXT) in the SNOVA\NOVA4 folder.



Because the levels needed by different schools vary considerably, only a small set of levels is offered, but you can add any others you want by editing the text file. LEVELS.TXT is included in the backup of the teacher database, and so can easily be transported to a satellite machine.

A list of some levels currently used by examining boards is given at the end of this section.



Select a chosen level, and click **OK**. The level will be assigned to all the classes you selected. If you find that you selected the wrong level, correct your error; there will be no consequence if you make the correction before the curriculum plan is exported to SQL, or later on the same day. A later correction will leave "false" courses in the SQL database, but the correct ones will also exist, from the date on which you exported the corrected data.

### Removing levels from classes

To remove the levels assigned to a single class or a selection of classes, follow one of the above procedures as appropriate, and select <None> from the "Select level" dialog.

You can delete the levels assigned to *all* classes in the curriculum plan by clicking on the "Clear Levels" button at the bottom of the "Enter/edit Curriculum dialog."

### Examination levels in current use

The table below lists some of the examination levels defined in the Joint Council Formats booklet September 2002 – the 'Black Book'.

If you add any of these to your LEVELS.TXT file, only the data in the first two columns should be entered.

<b>Code</b>	<b>Name</b>	<b>Description</b>
1	Stg 1	Stage 1
2	Stg 2	Stage 2
3	Stg 3	Stage 3
5	ASVCE	Adv Subsid VCE
6	AVCE	Advanced VCE
7	AVCE2	Adv VCE Double
8	FSMQ	Free Maths Unit
9	EL	Entry Level
@	AGCE	Advanced GCE
F	KSKL	Key Skills
G	GCSE	GCSE
N	Short	NC/GCSE Short
S	AEA	Adv. Ext. Award
W	ASGCE	Adv Subsid GCE
X	GNVQF	GNVQ Foundation
Y	GNVQI	GNVQ Intermed.

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