

Converting Nova-T to SQL Mode: Essential Advice for Support Teams

This document gives a more detailed explanation of specific Nova-T data conversion problems that may be encountered, including how to avoid these problems together with what can be done to minimise their impact. The document consists of the following sections: Preparing Nova-T data for conversion to SQL mode

1. Changing the Curriculum Plan after conversion to SQL mode
2. Changing the Timetable after conversion to SQL mode
3. Changing the timetable cycle after conversion to SQL mode
4. Solutions to Common Problems

Preparing Nova-T data for conversion to SQL mode

The most important issue is ensuring that the curriculum plan is adequately described, because the naming conventions that generate default class labels from group and block names now also play a role in the way in which structures in Nova-T are communicated to the SQL database.

The link between blocks, group and classes in Nova-T and the equivalent structures in the SQL database is maintained at two levels. Normally the identification of Nova and SQL classes is performed by means of a unique key, supplied by SQL and stored in Nova-T against each block, band, group or class. Should this link be missing – as for example will be the case if a class has just been created in Nova-T, then a secondary mechanism will be used, which relies on the **systematic name** of the item.

This means that it is important to name the various parts of the curriculum plan in a logical way, in particular avoiding the creation of duplicate group and class names. In fact you will **not be able to convert** the Nova system to SQL mode until any such duplicates have been removed.

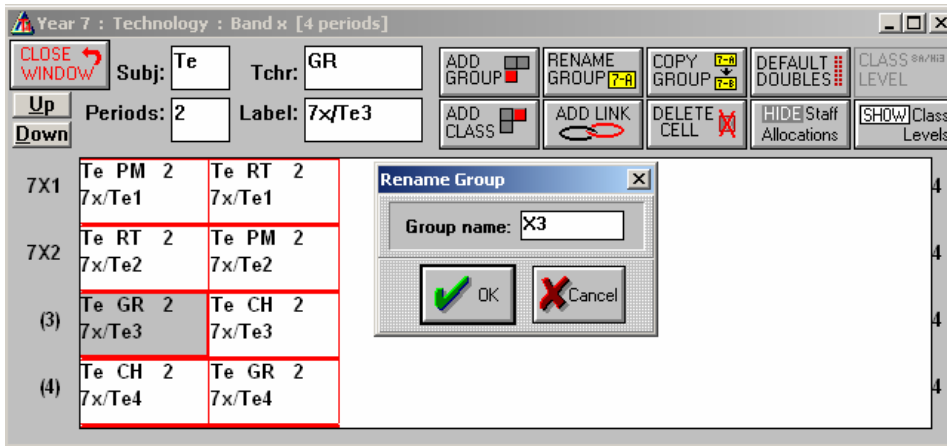
There are a couple of extra points to note:

- The systematic name used for identification with SQL is a slight variant of the one used in Nova-T for generation of default class labels. Two classes for the same subject in the same group are automatically distinguished by the addition of a lower case letter as a suffix. For example, two English classes in the same group, “8A/En1” would now be called 8A/En1a and 8A/En1b.
- In v482, in cases when a class belongs to a group with an explicit name AND also a block with an identifier, the method used for generating the systematic name of a class has been modified. In the new release, the group name takes precedence and is used to form the class name. Previously the block identifier was used and the group name ignored.

Steps to take:

1. Don't give the same letter block identifier to two blocks in a year. You may appear to “get away with it” if the blocks have no subjects in common, but it may well be storing up problems for the future.

2. Make sure that every group that contains more than one class has been given an explicit name. This is essential in Nova-T v4.82. The reason for it is explained in the next section. True linear groups (typically 7-A, 7-B, 7-C etc) will probably already have names. The cases requiring attention are more likely in the upper school, where an A-Level course is delivered by two or more teachers.
3. Group names must be unique within a year group. For example you must not have two instances of groups called 8F1 in the plan. If a group has no explicit name, its name is inferred from the label of its (first) class (eg 10X/Hi1) – so watch out for duplication here too.
4. The systematic class names of all classes in the plan must be unique. If the previous advice has been followed, this is likely to be the case already. In all datasets exhibiting a large number of “illegal duplicate” class names, almost all the problems have been resolved by modification of block identifiers and group names.



The following diagram shows the Nova screen on which the user can edit the group names within a block. Select a class of the group and click on the “Rename Group” button.

Changing the Curriculum Plan after conversion to SQL mode

Many users have reported problems that have occurred after a change was made to the curriculum plan and re-exported to SQL. It is worth understanding the reasons behind this, as not every change causes a problem.

In SQL, curriculum structures are represented in a common format, as bundles of groups (which may be Nova bands, Nova groups or Nova classes) called Schemes. Typical schemes are Nova blocks and the collection of base bands serving a year. In every case, a student would normally expect to belong to just one group within a scheme at any point in time.

If a class is the only class of a group, the group is not represented in SQL at all. Instead the class belongs to the block directly. In other cases, where the group is either linear, or has linked classes, the group serves some lower-level schemes called *Clusters*, to which the classes belong. In the case of linked classes, the cluster scheme will have two or more member classes. These would appear as columns in the “tick grid” in Academic Management. In the case of linear classes with no links, each is a *singleton* member of its own cluster scheme.

To simplify the handling of schemes in Academic Management, a rule is enforced that no group (i.e. class, group or band) can belong to two different schemes during the course of the academic year to which it belongs. This imposes restrictions on the use of classes:

1. A class representing a double-option choice in, say, year 10 cannot simultaneously belong to two Option blocks. In such cases, the class must be duplicated, though their labels may be changed so that they “look” the same. However the systematic names of the two classes will be different, e.g. 10A/Sc1 and 10C/Sc1.
2. A class cannot be moved from one Option pool to another part-way through the year. If for some reason this is required, the old class must be replaced by a new one, and the memberships transferred manually in Academic Management.
3. If a class is the sole class in its group, this cannot be changed at a later date during the year, as this would result in the class being attached first to the block scheme, and subsequently to a cluster scheme. Similarly a class cannot become the only class in a group, having started off life as part of a linear or linked arrangement.

NOTE: Neither of the changes described in points b) or c) cause a problem if the old situation is completely overwritten – i.e. for the whole academic year – by the new structure.

Point 3 above has turned out to cause the biggest headache in schools. In several cases, users have transferred a timetable to SQL in which a class was scheduled, say, with one teacher for two periods, and with another teacher for the rest of the week. This was completely in order. But subsequently they have attempted to replicate this split on the curriculum plan and re-export.

It is not advisable to split a class into two on the curriculum plan in this way unless there **really are two classes**. Bear in mind that each class on Nova’s curriculum plan will have its own identity in SQL, and will appear in other parts of the SIMS system. For the reason given above, **if** this is required, it should be planned in advance, before the curriculum is transferred to SQL.

In the longer term, this problem will be addressed by changes in the software.

Changing the Timetable after conversion to SQL mode

In general, this is much less problematic than changes to the plan described in the previous section. Timetable changes are after all far more frequent, and are occasioned by events and incidents of all sorts. In general, you can modify a room or teacher allocation and re-export from today with no adverse effects.

Nova-T4's link to SQL is less adequate at dealing with changes intended for the future, as Nova-T holds a snapshot of the timetable, and cannot hope to deal with a picture in which arbitrary changes are planned for various time frames over the academic year. This is in contrast to Academic Management's fully historical editing capability, in which plans can be made for student membership of classes weeks or months in advance.

In general then, you should export from Nova-T from "today" until the end of the academic year. But it would be perfectly reasonable to operate a regime of exporting from "today" until the end of the *current term*, while remaining free to plan a radically different timetable for the following term.

There is one issue that users should be aware of, and it is particularly relevant at the beginning of the year. It relates to Lesson Monitor, or similar third-party software that records marks for students against individual lessons on the timetable.

When a new timetable is transferred from Nova-T in which a previous lesson record in SQL is no longer valid – and this may be as a result of a simple room change – then IF the date range of the old record lies completely within the date range of the export, the transfer routine will attempt to delete it. However if lesson attendance marks already exist for this lesson, the deletion is forbidden, and the whole transfer will be aborted.

The problem occurs because lesson attendance marks are recorded directly against the timetable lesson record, and once they exist they prevent that timetable record from being deleted. From a system perspective, the only alternative would be to delete the marks as well, which is not permitted.

Changing the timetable cycle after conversion to SQL mode

As a general rule – don't do this during an academic year! This routine is intended for use between years – for example if the school is changing from a one-week to a two-week cycle, or changing the number of periods in the day. Too much depends on the timetable cycle, and would be deleted if the user attempted this in the middle of a year.

There is currently no way for the user to edit any aspect of the timetable cycle once it has been defined. There is therefore a risk that, if for some reason, the times of the periods had been entered incorrectly, a user might think of re-exporting a new cycle definition from Nova-T, possibly even backdating this change to the beginning of the year. This would be catastrophic – in that **all data** associated with the old timetable, including lesson attendance marks, would be removed from the system. A warning is given in Nova-T, but users have been known to ignore warnings.

Solutions to Common Problems

No group can belong to more than one scheme

The most common problem by far is the "No group can belong to more than one scheme" error. This is almost always caused by an attempt to convert a group with one class into a "linear" arrangement, often simply by splitting the class into two parts.

There are two approaches to this problem.

1. Reverse the change. Go back to the situation in which the class was the only class in its group, but was scheduled with different staff across the timetable. The class can only have one planned main teacher – but this was the case before.

2. Select the relevant class (the old one that existed before the change) in Plan | Curriculum (see the diagram at the end of section 1) and use “F5” to break the link. In versions on Nova-T prior to v482, this routine simply discards the primary stored link to the SQL class. The transfer routine will then attempt to match on the systematic name. If (as is usually the case) the new class is in the same subject as the old one, the systematic names will now have suffixes “a” and “b”, and so the secondary match will also fail. The transfer will then create two new classes.

NOTE: If the new class was in a different subject, the lower-case suffixes will not be applied. The secondary link will then discover the original class anyway, and so the transfer process will STILL fail. This is much less common, but has been reported. An easy fix for this has been established in v482, in which all linear classes have their systematic names prefixed with an asterisk. But in v481, the only solution is to force a change in the systematic name some other way. A change to the subject of the class would be one possibility. Alternatively, a change to the group name would work IF there is no block identifier.

Conflict with Lesson Attendance Marks

This is caused by an attempt to export a timetable that would have resulted in the complete eradication of another timetable record in the database, to which lesson marks were attached. It is much less common than it was at the start of the academic year, as the transfers from Nova rarely require the deletion of an existing timetable record.

Usually the problem is resolved by exporting from today, rather than from a date in the past. In theory however, the problem could occur if marks are entered against lessons in the future, which themselves have a start-date which also lies in the future (perhaps as a result of a planned room change).