

Using Microsoft SQL Server 6.5 – A Brief Help Sheet for CMPT-354

1. Getting Started

To Logon:

- (1) Press CtrAl+Alt+Delete.
- (2) Input your user id (the same as your Campus Network user id) and password (your 9-digit student id when you first logon) and click 'OK' in the logon dialog box.

Then, you'll get into WindowsNT 4.0.

To Use Microsoft SQL:

- (1) Click the *Start* icon at the bottom-left corner.
- (2) Chose *Programs*, then *cmpt354* and *MS SQL* from the pop-up menu, you'll see the sub-menu of *MS SQL* which includes 6 items. The first one, *ISQL_w*, is the one we'll mainly use in this course.

We'll give more details about the 'MS SQL' later in part 2.

To Logout:

- (1) Click the *Start* icon and then click *Shut Down* from the pop-up menu.
- (2) In the popped-up dialog-box, select 'Close all programs and log on as a different user' and click the 'Yes' button.

2. Microsoft SQL

There are 6 items in the 'MS SQL' sub-menu:

ISQL_w: the tool we'll use in this course. At the first time you enter this window, you'll be asked to connect to a server. Choose or type in 'CYPRESS', which is the SQL server, as the server name. Then choose 'Use Trusted Connection' and click 'Connect', you'll be connected to the SQL server. Now the Query tab appears in which you can type a query. To start a new query:

1. From the 'DB' list-box in the tool bar, select the database you want to work at (i.e. your own database).
2. From the Query window, click the New Query button (the first button in the tool bar). In the Query tab type a new query. Or click the Load SQL Script button (the second button in the tool bar) to open a saved query. Edit the query, if necessary. (**Be careful**: each time you load a SQL script, the contents already existed in the Query tab will be cleared. To avoid the lost, click the New Query button or save the current query before you load a script.)
3. Click the Execute button.
4. The Results tab appears. You can edit the results if you want to. (Note: Results aren't always in the form of tables. Sometimes the results are only messages say that "1 row affected" or so. In such case you can write a 'SELECT' script to view the contents of your table.)
5. Click the New Query button, you'll start another new query. The queries you execute are listed in the Queries box, and you can switch among the queries at any time.
6. Other features:
 - (1) You can save or print the queries or query results at any time.
 - (2) You can use 'Statistics I/O' to graphically depict the amount of disk input/output required to access data for a query. See the '*Using Graphic Statistics I/O*' item in online '*Help*' for details.

MS Query: an easier interface to write queries. Here you don't have to write your SQL query statements. You can add your query criteria by just filling out the graphic criteria table or selecting 'Add Criteria' in the 'Criteria' menu. You can view the SQL scripts of your query by selecting the 'SQL' item in the 'View' menu.

Select 'Help' menu and then 'Cue Cards', you'll see an online coach which walks you through most common MS Query tasks.

SQL Enterprise Manager: a graphical application that allows for easy enterprise-wide configuration and management of SQL Server and SQL Server objects (tables, views, stored procedures, rules, etc.). The main

purpose of this part is to provide the system administrator a powerful tool to manage the system. As an database user, there is little you can do with it. However you can use it to:

- (1) view the sample databases and objects in the SQL Server:

If you haven't been connected to a server, you might be asked to do so at the very first time when you open the **SQL Enterprise Manager** window. Enter 'CYPRESS' (which is the name of our SQL Server) as the server name and select 'Trusted Connection', then click the 'Connect' button.

In the 'Server Manager' window, select 'CYPRESS' and 'Databases', you can see that except your own database, there're three system databases: *master*, *msdb*, and *pubs*. Among them, The *pubs* database is a sample database provided as a learning tool. The *pubs* database is the basis of most of the examples in the Microsoft SQL Server documentation. It is described in the Appendix B of *Microsoft SQL Server Transact-SQL Reference*, which you can also read from the **SQL Server Books Online**. In the **SQL Enterprise Manager** window, you can view the existing objects of the system databases. Only that the Tables and User Defined Datatypes are not in the term of SQL language. But you can use the 'Generate SQL Scripts' function in the 'Object' menu to get the SQL scripts.

- (2) create your own objects:

1. In the 'Server Manager' window, select the server and database you want to create an object for.
2. From the 'Manage' menu, choose the kind of object (Tables, View, Procedures, Rules, etc.) you want to create.
3. Then the window for creating/modifying the specific object appears.

Creating/modifying objects here are quite the same as in the **ISQL_w** window, except the creating/modifying of tables. The 'Manage Tables' function (can be chosen by selecting 'Tables' item in 'Manage' menu) of **SQL Enterprise Manager** provide an easier interface to create and change tables. You don't need to write SQL statements. You just fill out the name, type, length, etc., for each column. After you finished a table, select 'Object' menu and the 'Generate SQL Scripts' function, **SQL Enterprise Manager** will automatically generate the SQL scripts for you.

There're two reasons I don't recommend you to use **SQL Enterprise Manager** to create or change your tables. The first one is that you'll lose some chances of practising the SQL language. The other one is that this function itself is not good enough. E.g., you can only use it to define the head of the table; once a table is created, most parts of it could not be changed.

- (3) delete your objects when you no longer need them:

Instead of writing "DELETE" statements in **ISQL/w** to delete the obsolete objects, you can easily do it in SQL Enterprise Manager by just clicking mouse buttons: select/highlight those objects you want to delete, then click the RIGHT mouse button. Choose "Drop" item and drop the selected objects.

Note that sometimes the system says you can't drop the objects because the transaction log (which is used to record the changes so that your database can be backed-up or retrived) is full. In such case you need to write and execute the following query in **ISQL/w** to clear the transaction log:

```
DUMP TRANSACTION name_of_your_database WITH NO_LOG
```

SQL Help: This is actually a reference for the Tansact-SQL. If you are in a Query window and want help on Transact-SQL syntax, highlight the syntax and press SHIFT+F1.

SQL Server Books Online: an online book for the Microsoft SQL Server 6.5. It's a database which contains almost everything you need to know when using MS SQL.

SQL Trace: a graphical utility to monitor and record database activity for Microsoft SQL Server 6.5. This part can only be accessed by or under the authority of the system administrator.

3. Using the Sample Database

In MS SQL Server, there is a sample database called “pubs”. We will use it in the last question of assignment 1 and some future assignments. Each of you should ‘download’ this database to your own so that everyone will work within his/her own database. Follow the following steps to ‘download’ all objects in the “pubs” to your own database:

1. In **ISQL/w** window, select your own database from the ‘**DB**’ list-box in the tool bar.
2. From the Query window, click the New Query button, then click the Load SQL Script button. Load the ‘pubs.sql’ file under the ‘Network Neighbourhood\Larch\notes\cmpt354’ directory into the Query window.
3. Click the Execute button.

Be sure that you are working in your own database, not the “pubs” or other system databases.

Now your database is just the same as the sample database. Run your queries on it and have fun! If it was changed and you want to re-download the sample database, first goto the **SQL Enterprise Manager** and drop all old objects in your database. Then in the **ISQL/w** window load the ‘pubs.sql’ script and execute it.

To print the ‘pubs.sql’ file, or your other queries, or your query results, use the ‘Print’ function in the ‘File’ menu. To see the description of the “pubs” sample database, check **SQL Server Books Online**, *Microsoft SQL Server Transact-SQL Reference, Appendix B*, or the ‘pubs_description.doc’ file under the \\LARCH\notes\CMPT354 directory. Or download a postscript file from the web site of CMPT 354.

Two useful queries:

1. DUMP TRANSACTION database_name WITH NO_LOG: dump your transaction log when it is full.
2. SELECT * FROM table_name: list all tuples and all columns in the table.