

NMIM Training

Part 3

MySQL and Modifying the NCD

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Modifying the NCD

- MySQL
- Graphic tools for MySQL
 - MySQL Query Browser (QB)
 - MySQL Control Center (CC)
- Structure and organization of the NCD
- Adding VMT
- Changing VMT

MySQL

- The NMIM County Database is in MySQL
- NMIM Output is in MySQL
- Documentation on your hard drive:
c:\MySQL\Docs
- Web URL: www.mysql.com
- Worth understanding at least a little about it
- Put C:\mysql\bin in your path

MySQL Query Browser

- A handy utility for examining MySQL Databases and tables
- Can modify individual entries in tables.
- MySQL scripts superior because
 - Can quickly modify many entries
 - Provide a record of what you did
- See installation ReadMe.doc for installation and startup.
- Supported by MySQL

NMIM County Database (NCD)

- Tables are generally named in a way that suggests their primary key.
- Cryptic variables are decoded.
- Let's look.

Exercise 12. Experiment looking at the NCD using Control Center or Query Browser

- Click the database NCD20060201
- Click tables
- Drag tables into panel to the left

Structure of MySQL Databases

- C:\MySQL\data
- Each table consists of three files
 - .MYD - the data
 - .MYI - the index
 - .frm - the format
- So to copy a table you must copy three files.

Exercise 13: Add 2005 VMT to the BaseYearVMT table

- a. Make a copy of the database.
- b. Find out what years have VMT.
- c. Create a text file with 2005 VMT.
- d. Write a MySQL script to import the text file into the BaseYearVMT table.
- e. Run the MySQL script.

Ex. 13a: Make a copy of the NCD

- Copy NCD20060201 using Windows Explorer
 - Look in C:\mysql\data
- Rename the copy NCD20060201a
- Optional: Verify the copy exists using MySQLCC
 - Right click on Databases, Refresh
 - Verify that copy matches original
 - Table names, variables, number of records
- Optional: Verify using the command window
 - type **MySQL**
 - type **show databases;**
 - Type **use ncd20060201;**
 - Type **show tables;**

Ex. 13b: What years have VMT?

- Use MySQLCC to look at variables in BaseYearVMT
- Open command window
 - Type **MySQL**
 - Type **use ncd20060201a;**
 - Optional: Type **describe baseyearvmt;**
 - Type **select distinct baseyear from baseyearvmt;**

Ex. 13c: Create a BYVMT text file to import

- Create a folder: C:\NMIM\ChangeNCD
- Create an Excel spreadsheet (call it NewBYV.xls) in this folder
- Put in the correct headings
- Fill in the values for vtype=1
- To get values for RoadType, mysql> select roadtype from hpmsroadtype;
- Enter \N (for null) for DataSourceId
- Save as tab-delimited text
- You could have created this text file with FoxPro, Access, Oracle, SAS, etc., etc.

Ex. 13d: Write a MySQL script to import the text file into the BaseYearVMT table

- In the ChangeNCD directory, create a new text file, and name it LoadBYV.sql
- This script will
 - add records if the primary key does not exist.
 - change records if the primary key does exist.
- It will work for every single table in the NCD.

Ex. 13d: Write the script (cont.)

- In the script below, notice that
 - We use a complete path for the infile
 - Forward slashes separate directories
 - The order of variables must exactly match the order in the text file. The heading line in the text file is ignored.
 - "#" indicates a comment

```
# MySQL Script to alter BaseYearVMT table
use ncd20060201a;
load data
infile 'c:/NMIM/NMIM20050311/changencd/NewBYV.txt'
replace
into table BaseYearVMT
ignore 1 lines
(BaseYear, VClass, RoadType, FIPSCountyId, FIPSStateId,
DataSourceId, VMT)
;
```

Ex. 13e: Run the script to import the text file into the BaseYearVMT table

- Open a command window
- `cd c:\nmim\nmim20050311\changen`
- Type

MySQL -vvv < loadbyvmt.sql

- The `-vvv` means verbose
- Note that you can now run any MySQL script!

Ex. 14: Query the database

- We already did this in exercise 11b
- Verify that our data got added:
 - MySQL>select * from baseyearvmt where baseyear=2005;

Ex. 15: Export SCC table to a text file we can read into Excel, SAS, Oracle, etc.

- Write a script,

c:\nmim\nmim20050311\changeNCE\ExportSCC.sql

```
use NCD20050318;  
select sccid, scc, segment, sccdesc  
into outfile  
'c:/nmim/nmim20050311/changeNCD/scc.txt'  
from scc;
```

Ex 15 (cont.): Run the script

- From command prompt

C:\nmim\nmim20050311\changeNCD>

- Type

MySQL < exportscs.sql

- Open scs.txt using Excel