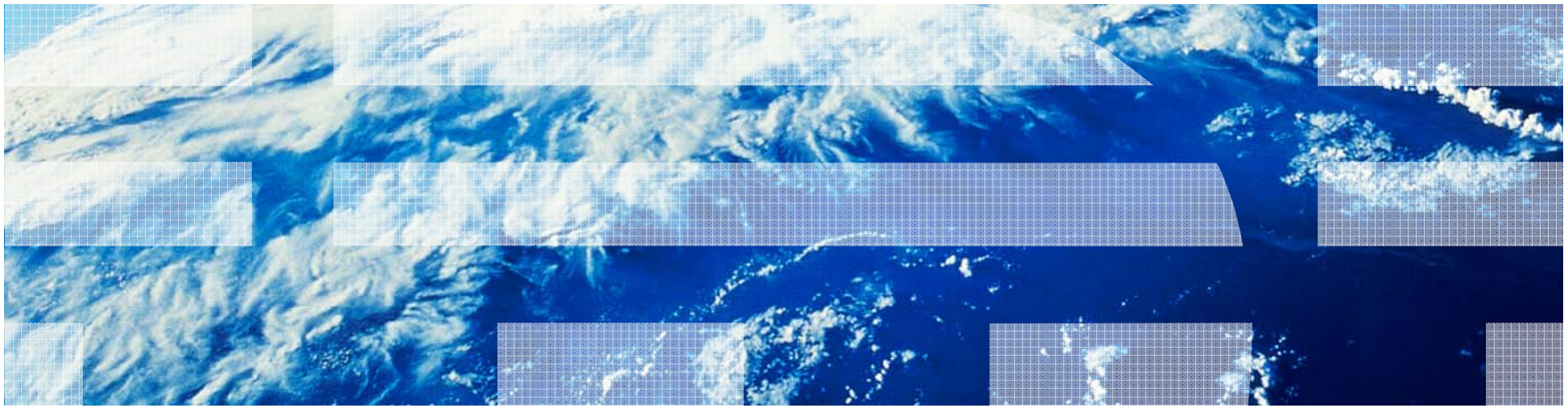
IBM

Information Management

Command Line Processor (CLP) and DB2 GUI Tool usage

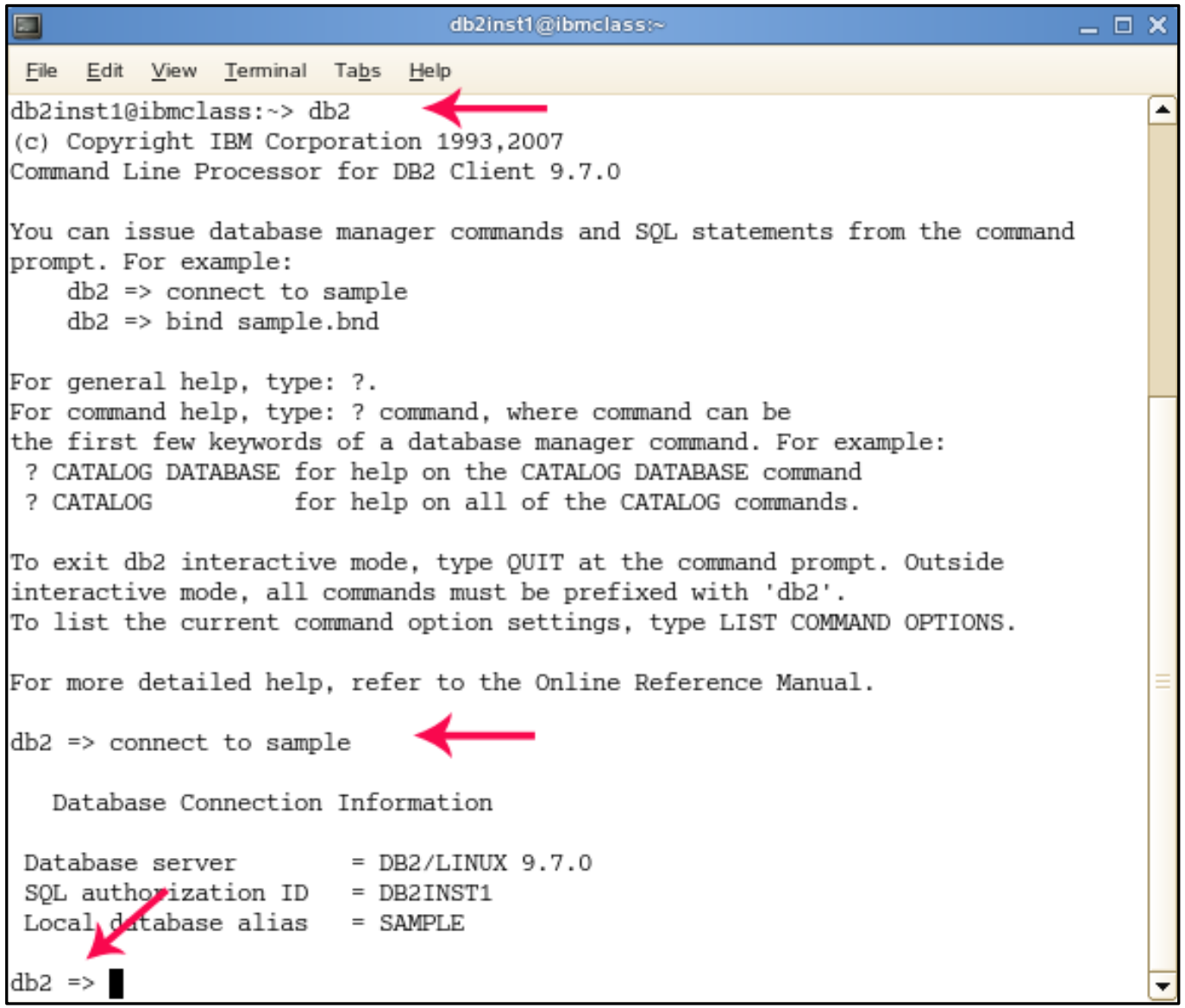


Unit objectives

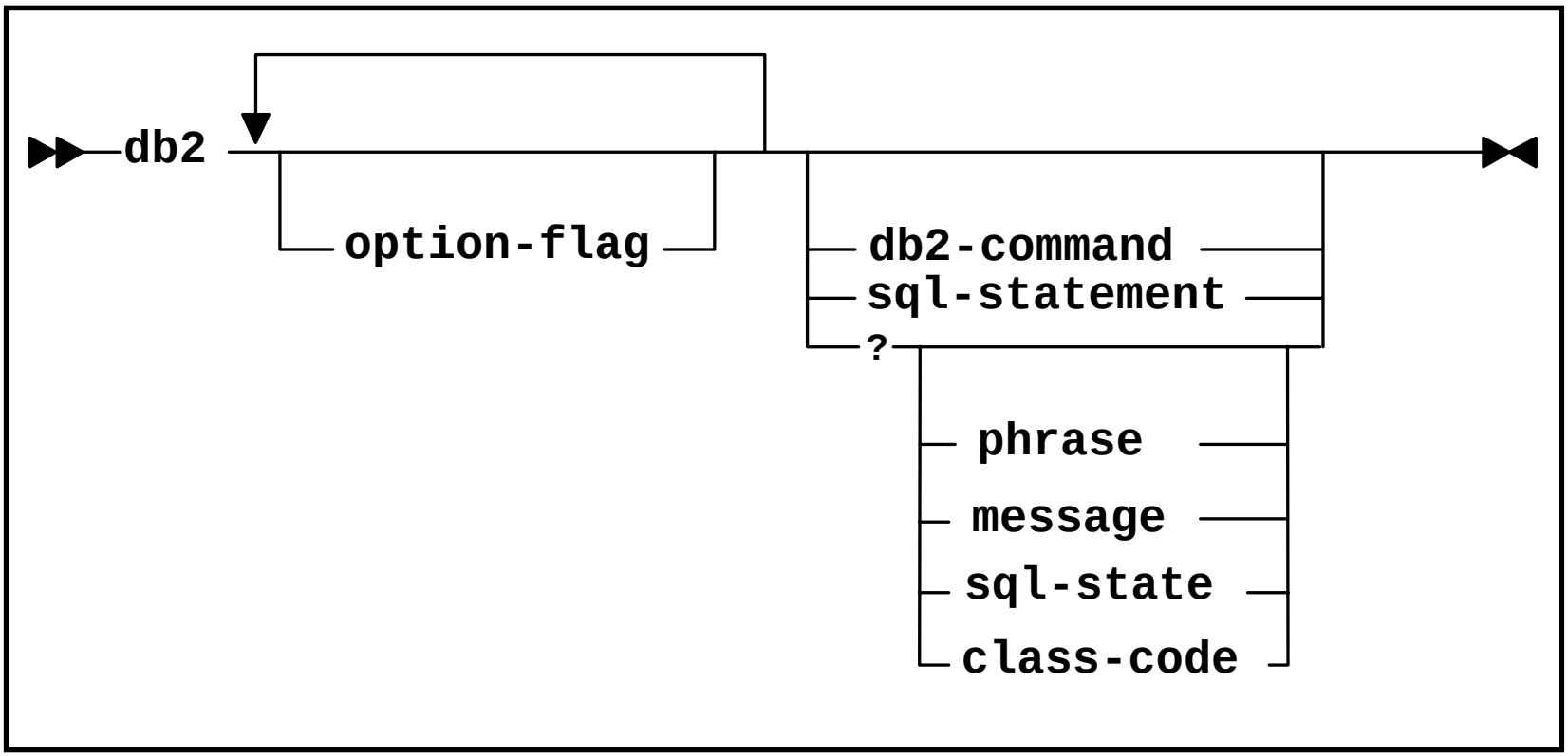
After completing this unit, you should be able to:

- Utilize the DB2 Command Line Processor to run DB2 commands and SQL statements
- Use CLPPlus to connect databases and to define, edit, and run statements, scripts, and commands
- Describe the GUI tools available that support administration and development with DB2 LUW servers
- Use Data Studio to perform database administration tasks and execute SQL scripts

CLP Command Line Processor



CLP syntax



Online reference

- Online Command Reference

```
db2 ?
db2 ? command string
db2 ? SQLnnnn   (nnnn = 4 or 5 digit SQLCODE)
db2 ? nnnnn     (nnnnn = 5 digit SQLSTATE)
```

- Online Reference Manuals

Using the CLP

Non-interactive mode

```
db2 connect to musicdb
db2 "select * from syscat.tables" | more
```

(double quotes may be required)

Interactive mode

```
db2
db2=> connect to musicdb
db2=> select * from syscat.tables
```

CLP command options

```
db2inst1@ibmclass:~> db2 list command options

     Command Line Processor Option Settings

 Backend process wait time (seconds)         (DB2BQTIME) = 1
 No. of retries to connect to backend         (DB2BQTRY) = 60
 Request queue wait time (seconds)           (DB2RQTIME) = 5
 Input queue wait time (seconds)             (DB2IQTIME) = 5
 Command options                            (DB2OPTIONS) =

 Option  Description                                 Current Setting
 ------  ------------------------------------------  ---------------
   -a    Display SQLCA                               OFF
   -c    Auto-Commit                                 ON
   -d    Retrieve and display XML declarations       OFF
   -e    Display SQLCODE/SQLSTATE                    OFF
   -f    Read from input file                        OFF
   -i    Display XML data with indentation           OFF
   -l    Log commands in history file                OFF
   -m    Display the number of rows affected         OFF
   -n    Remove new line character                   OFF
   -o    Display output                              ON
   -p    Display interactive input prompt            ON
   -q    Preserve whitespaces & linefeeds            OFF
   -r    Save output to report file                  OFF
   -s    Stop execution on command error             OFF
   -t    Set statement termination character         OFF
   -v    Echo current command                        OFF
   -w    Display FETCH/SELECT warning messages       ON
   -x    Suppress printing of column headings        OFF
   -z    Save all output to output file              OFF

db2inst1@ibmclass:~>
```

Modify CLP options

1 **Temporary for Command**

```
db2  -r  options.rep list command options
db2  -svtf  create.tab3
db2  +c  "update tab3 set salary=salary + 100"
```

2 **Temporary for Interactive CLP Session**

```
db2=>update command options using  c off  a on
```

3 **Temporary for non-interactive CLP Session**

```
export DB2OPTIONS="-svt"  (UNIX)
set DB2OPTIONS="-svt"     (Windows)
db2  -f  create.tab3
```

4 **Every session**

put point **3** in UNIX **db2profile**
or Windows System Environment Variables

Input file

Edit create.tab

```
-- comment:  db2 -svtf create.tab


connect to sample;

create table tab3
  (name varchar(20) not null,
   phone char(40),
   salary dec(7,2));

select * from tab3;

commit work;

connect reset;
```

db2 -svtf create.tab

Input file: Operating system commands

vi seltab

```
echo "Table Name Is" $1 > out.sel
db2  "select * from $1" >> out.sel
```

edit seltab.cmd

```
echo 'Table Name Is' %1 > out.sel
db2  Select * from %1 >> out.sel
```

seltab org

out.sel contents

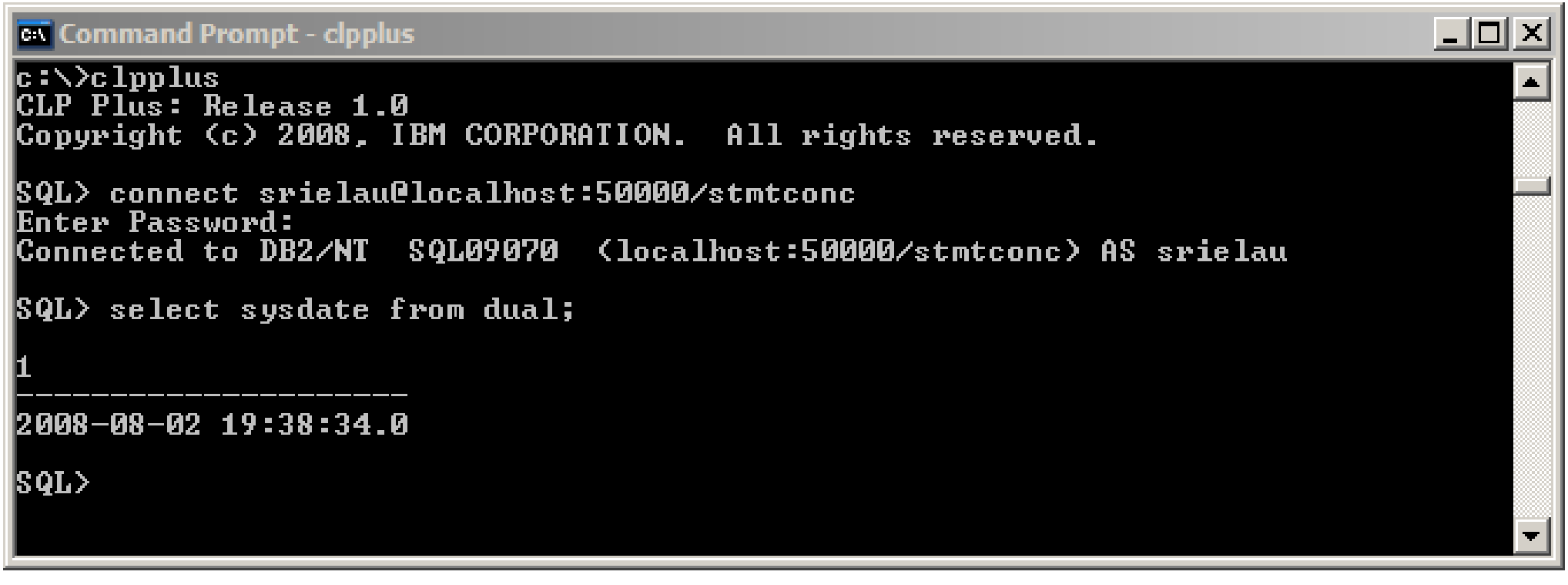
```
Table Name Is org

DEPTNUMB DEPTNAME      MANAGER DIVISION  LOCATION
      10 Head Office       160 Corporate New York
      15 New England        50 Eastern   Boston
      20 Mid Atlantic       10 Eastern   Washington
      38 South Atlantic     30 Eastern   Atlanta
      42 Great Lakes       100 Midwest   Chicago
      51 Plains            140 Midwest   Dallas
      66 Pacific           270 Western   San Francisco
      84 Mountain          290 Western   Denver
```

QUIT/TERMINATE/CONNECT RESET differences

CLP COMMAND	*Terminate CLP Back-end Process*	*Disconnect database Connection*
quit	**No**	**No**
terminate	**Yes**	**Yes**
connect reset	**No**	**Yes if CONNECT=1 (RUOW)**

CLPPlus command line processor

- CLPPlus:
  - SQL*Plus compatible command
  - Variable substitution
  - Column formatting
  - Simple reporting



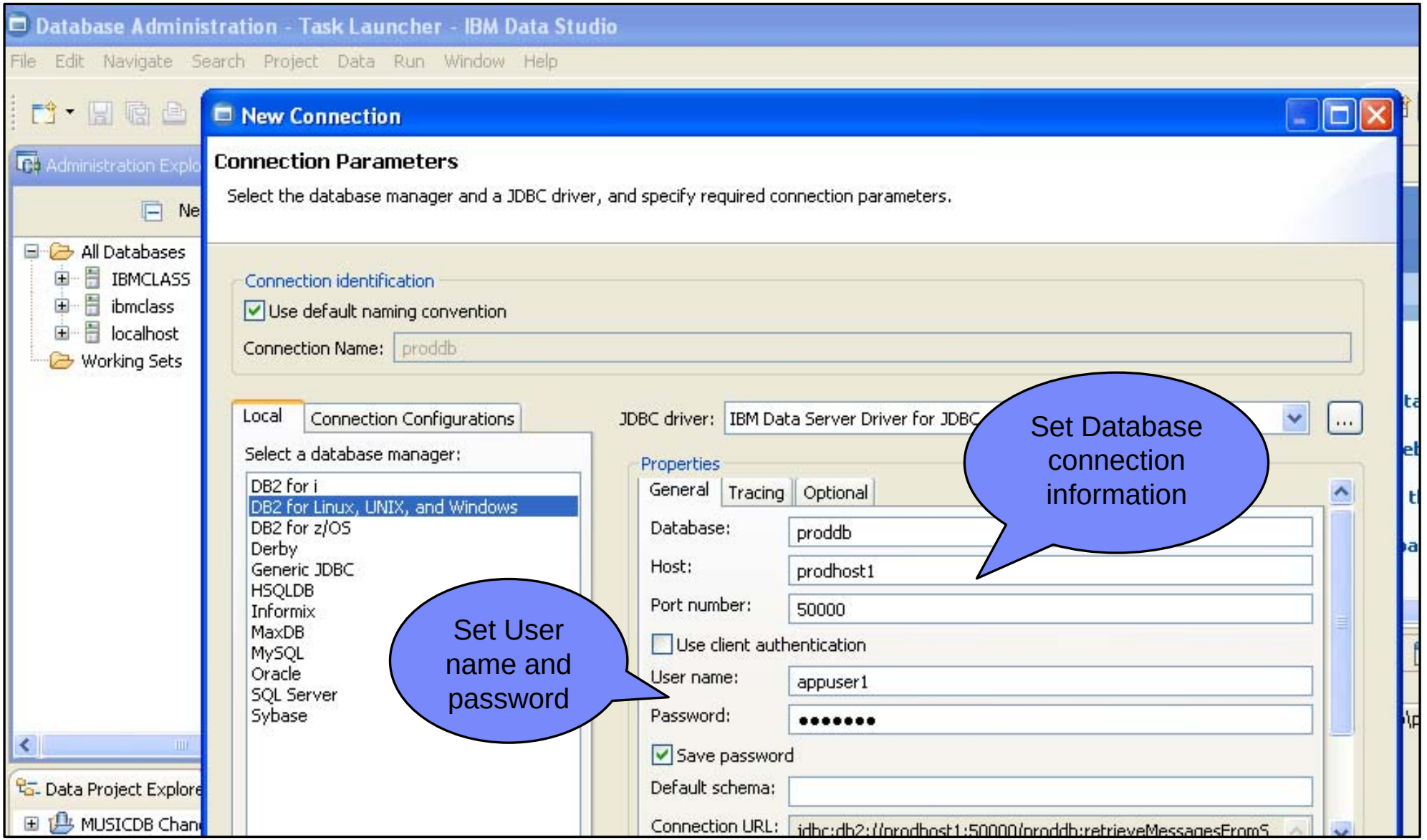
CLPPlus features

- Support for establishing connections to databases when a database user ID and password are provided.
- A buffer that can be used to store scripts, script fragments, SQL statements, SQL PL statements, or PL/SQL statements for editing and then execution. Text in the buffer can be listed, printed, edited, or run as a batch script.
- A comprehensive set of processor commands can be used to define variables and strings that can be stored in the buffer.
- A set of commands that retrieve information about the database and database objects.
- Ability to store buffers or buffer output to a file.
- Multiple options for formatting the output of scripts and queries.
- Support for executing system-defined routines.
- Support for executing operating system commands.
- Option for recording the output of executed commands, statements, or scripts.

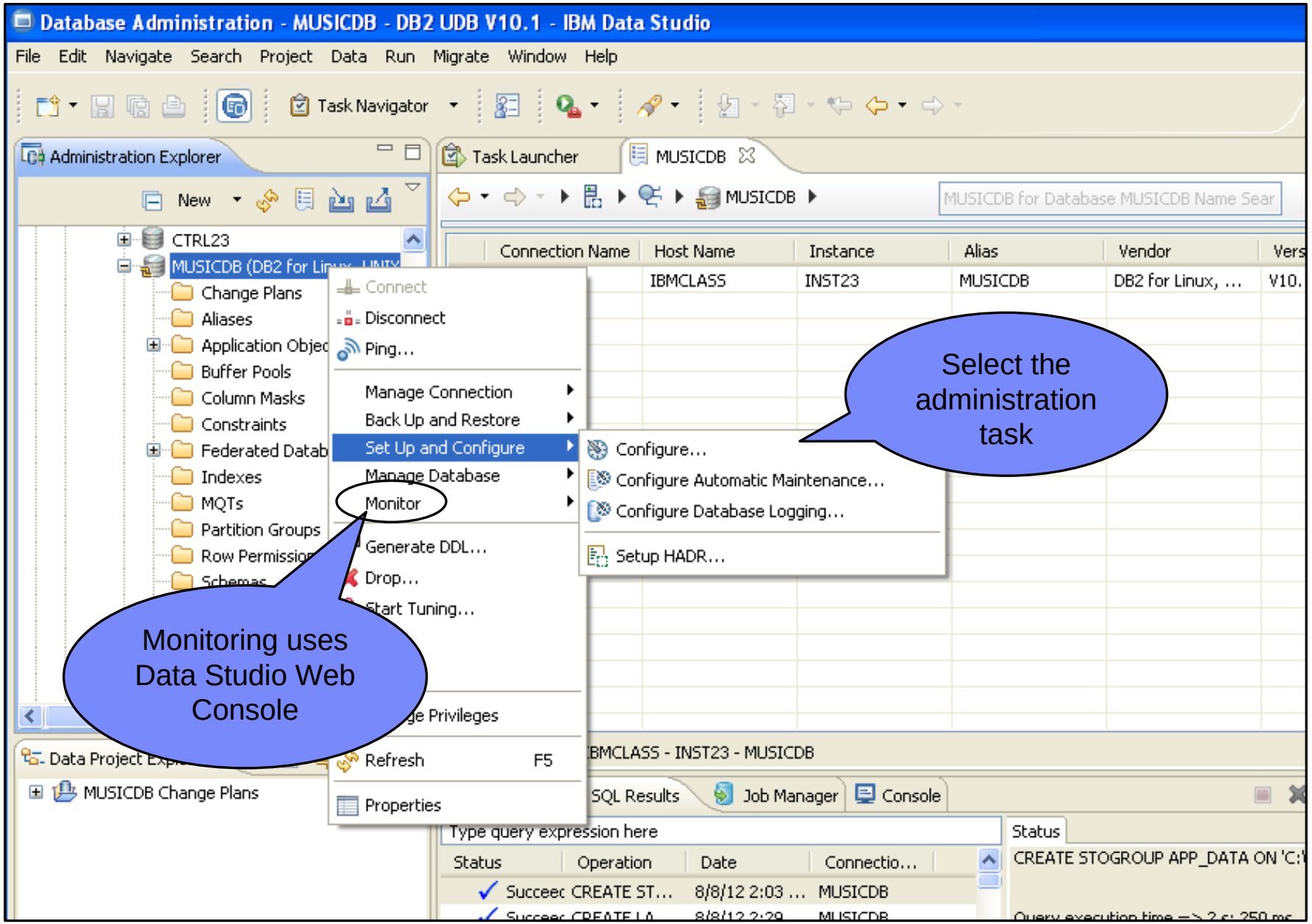
DB2 GUI Tools

- There are a set of tools that work together to provide a variety of Database Administration and development functions
  - **IBM Data Studio 3.1.1 enhanced to support DB2 V10.1**
    - The Data Studio client simplifies administering your DB2 databases by providing task assistants to perform common database administration tasks.
      - Starting or stopping an instance or database
      - Configuring an instance or database
      - Backing up, restoring, recovering a database or table space
      - Unloading and loading data in a table
      - Create and Execute SQL scripts
  - **IBM Data studio Web console**
    - Provides health and availability monitoring features and job creation and management functions for DB2 LUW and DB2 for z/OS databases.
      - Use the health pages to view alerts, applications, utilities, storage
      - Use the job manager to create and manage script-based jobs
  - **IBM InfoSphere Optim Query Workload Tuner**
    - Helps database administrators and SQL developers optimize the performance of SQL statements in applications that query DB2 for Linux, UNIX, and Windows databases and DB2 for z/OS subsystems.

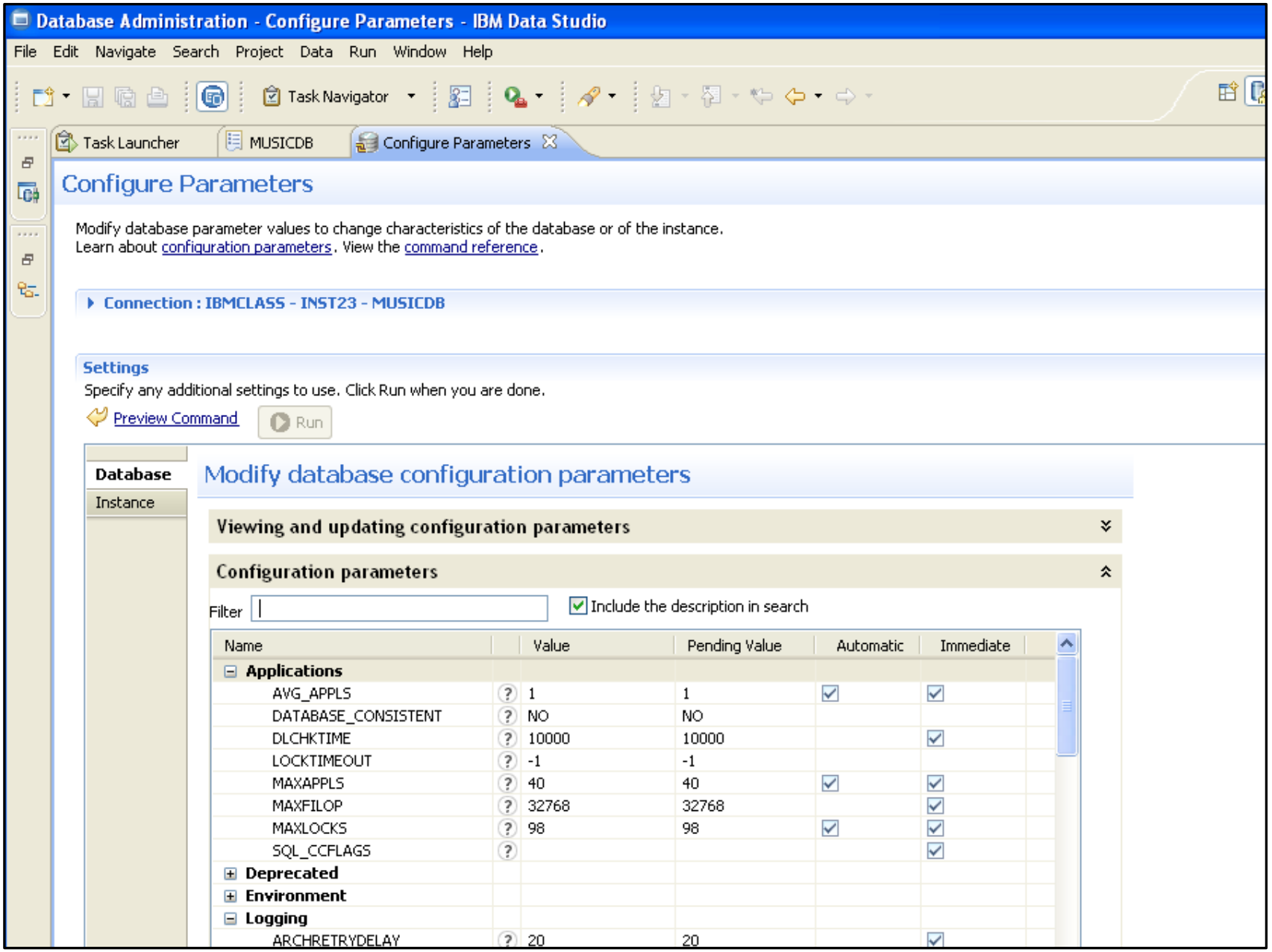
Data Studio – Database Connection profiles



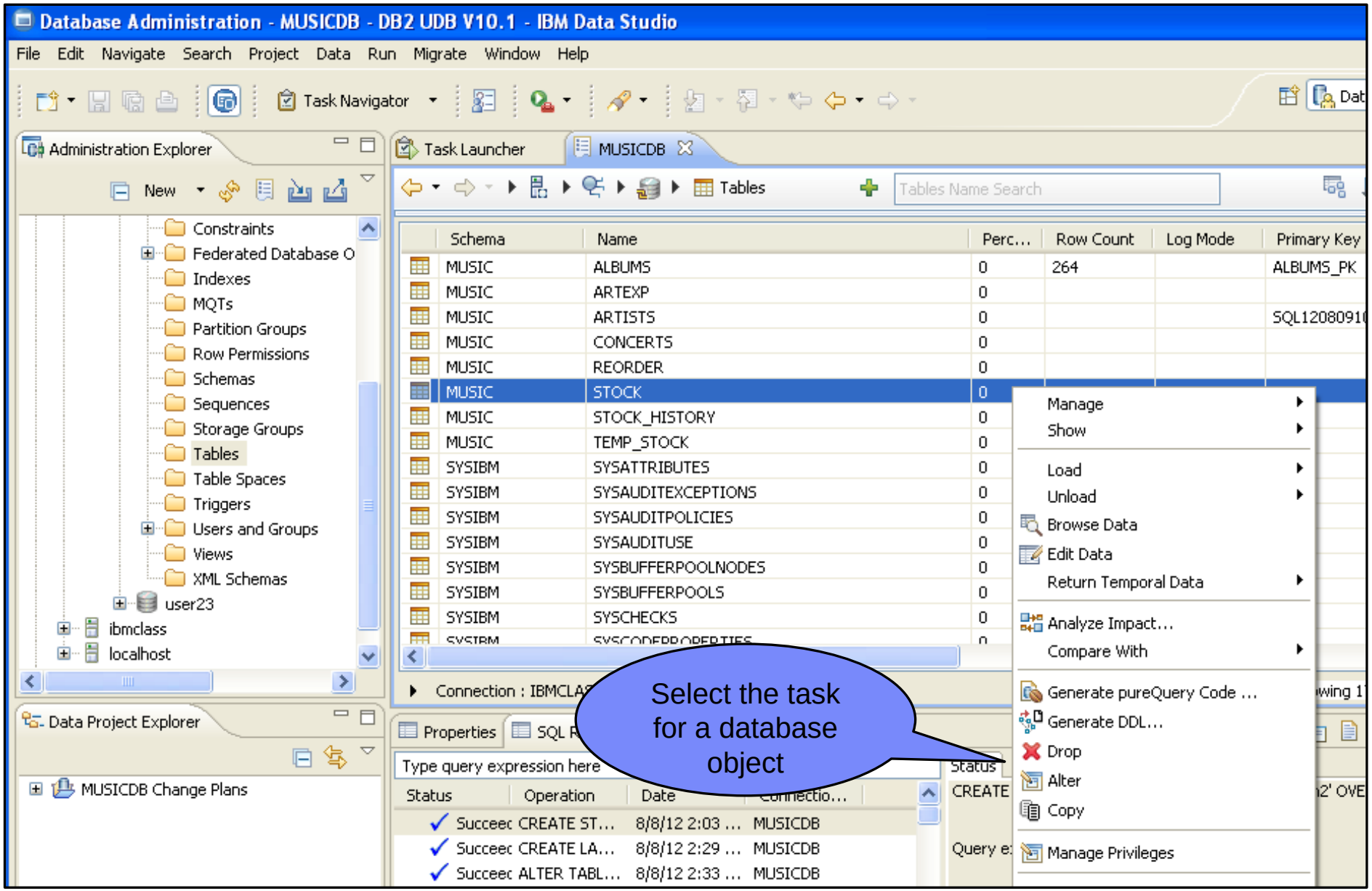
Data Studio – Selection of Database tasks



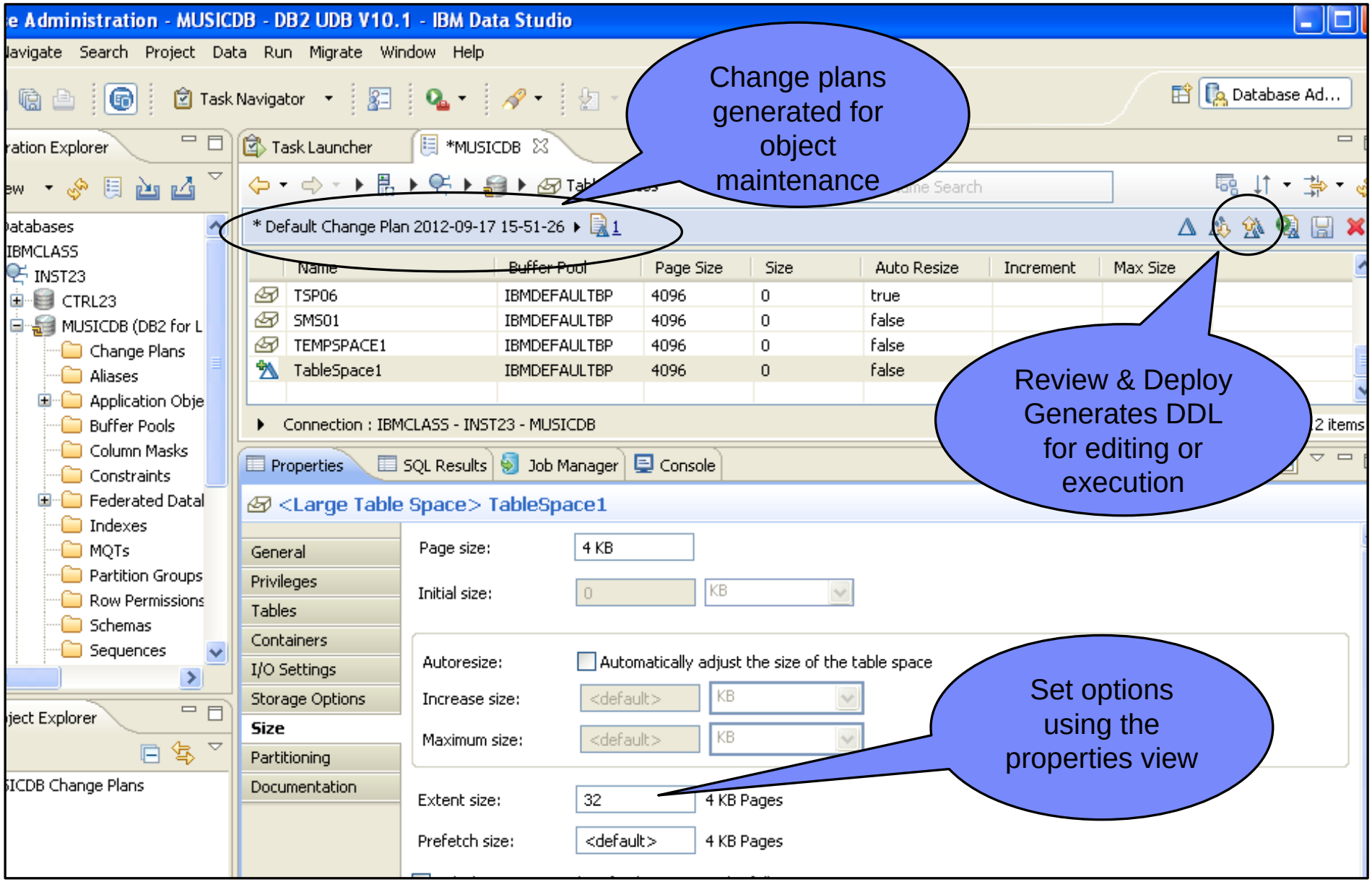
Data Studio – Setting Configuration Options



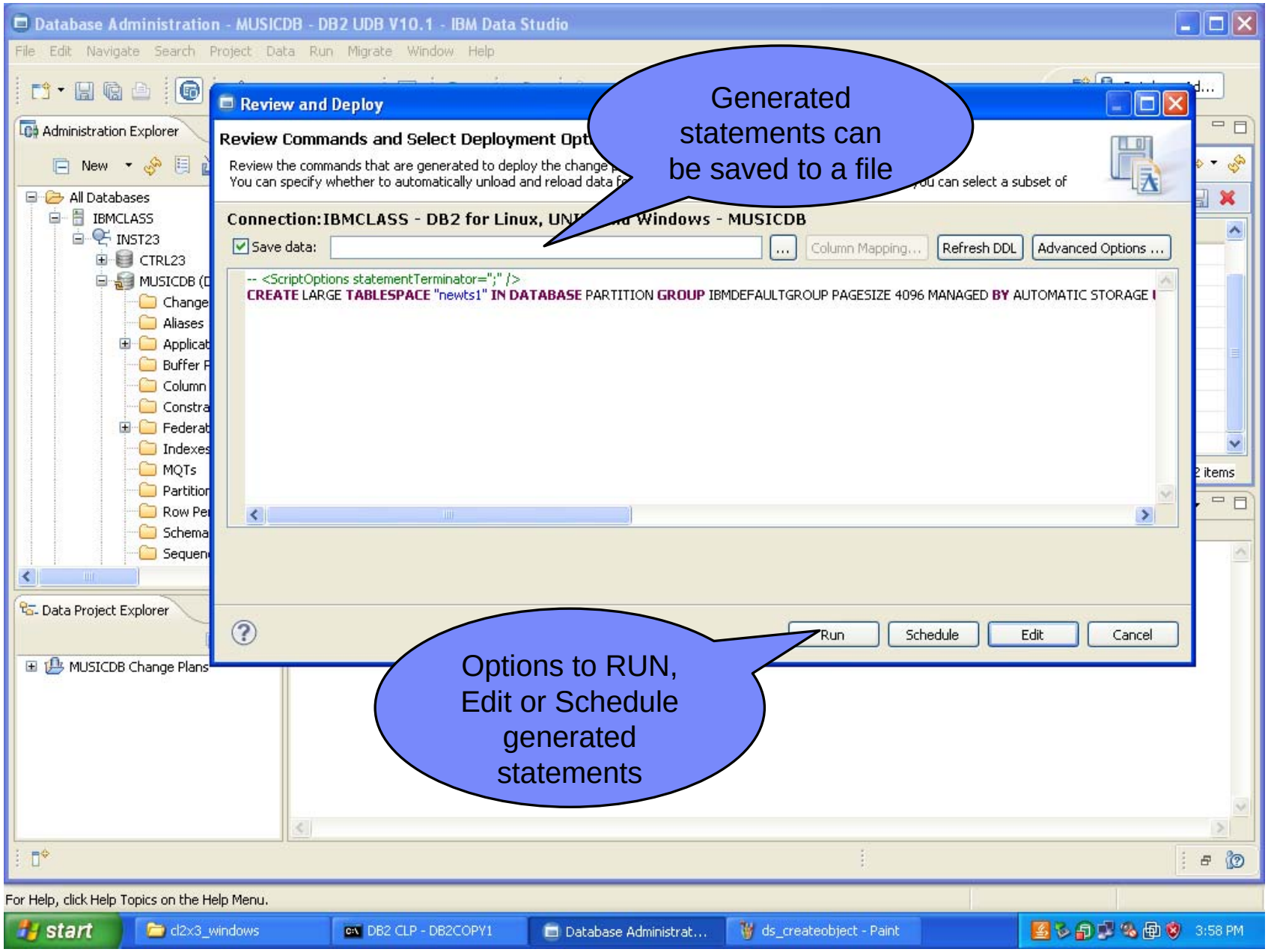
Data Studio – Selecting tasks for an object



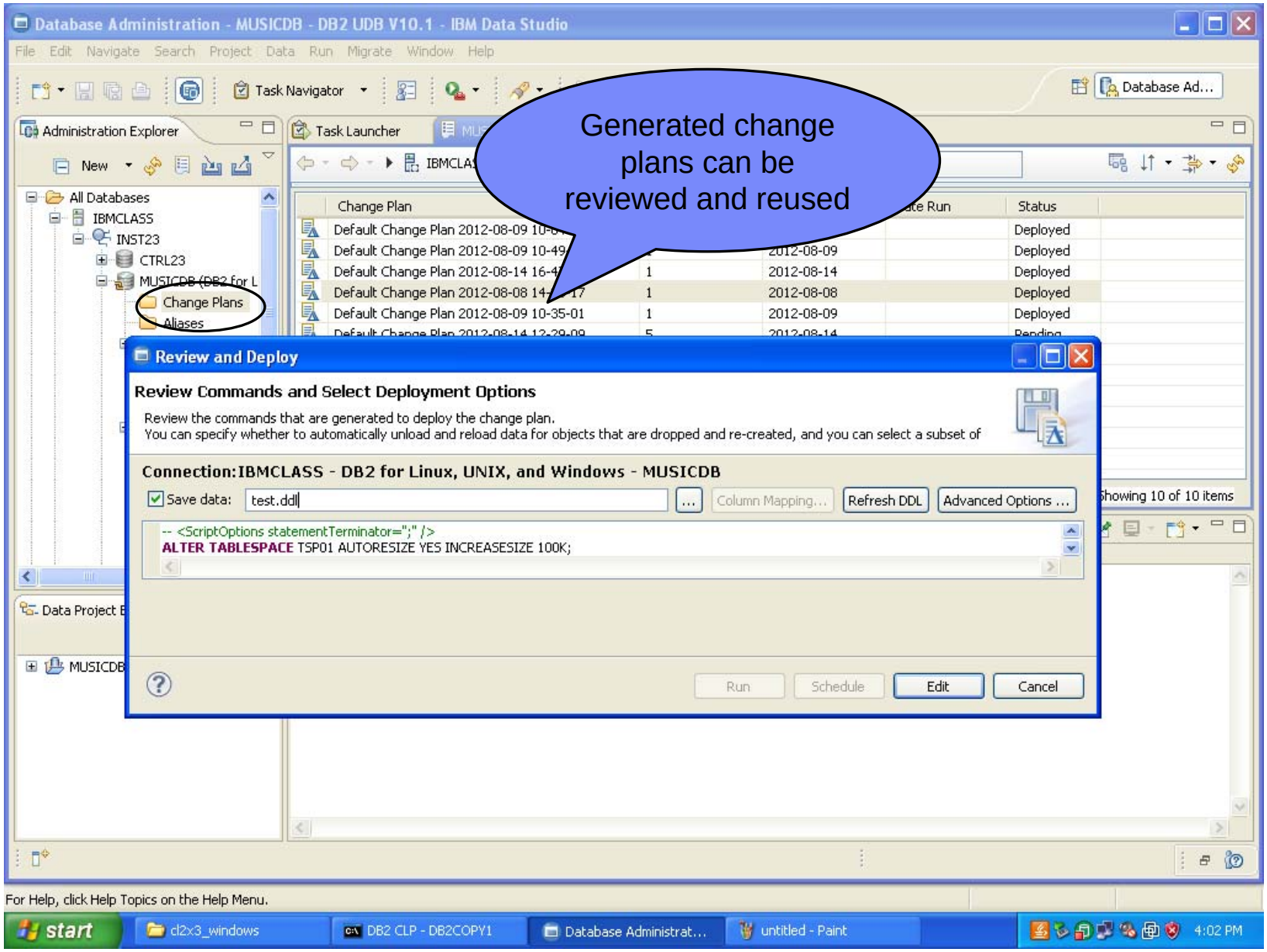
Data Studio – Create or Alter object properties



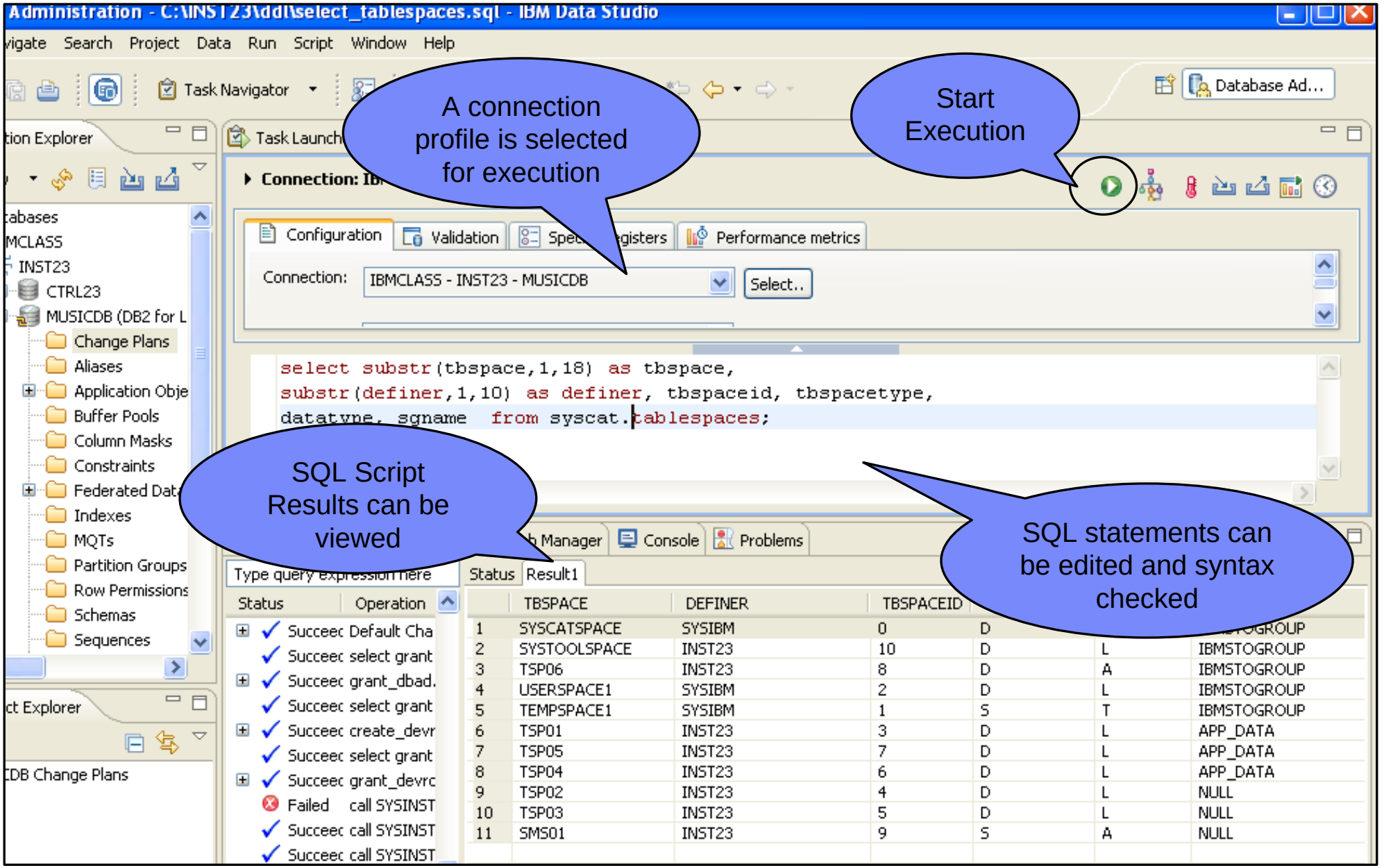
Data Studio – Review, Edit, Save or Schedule generated DDL statements



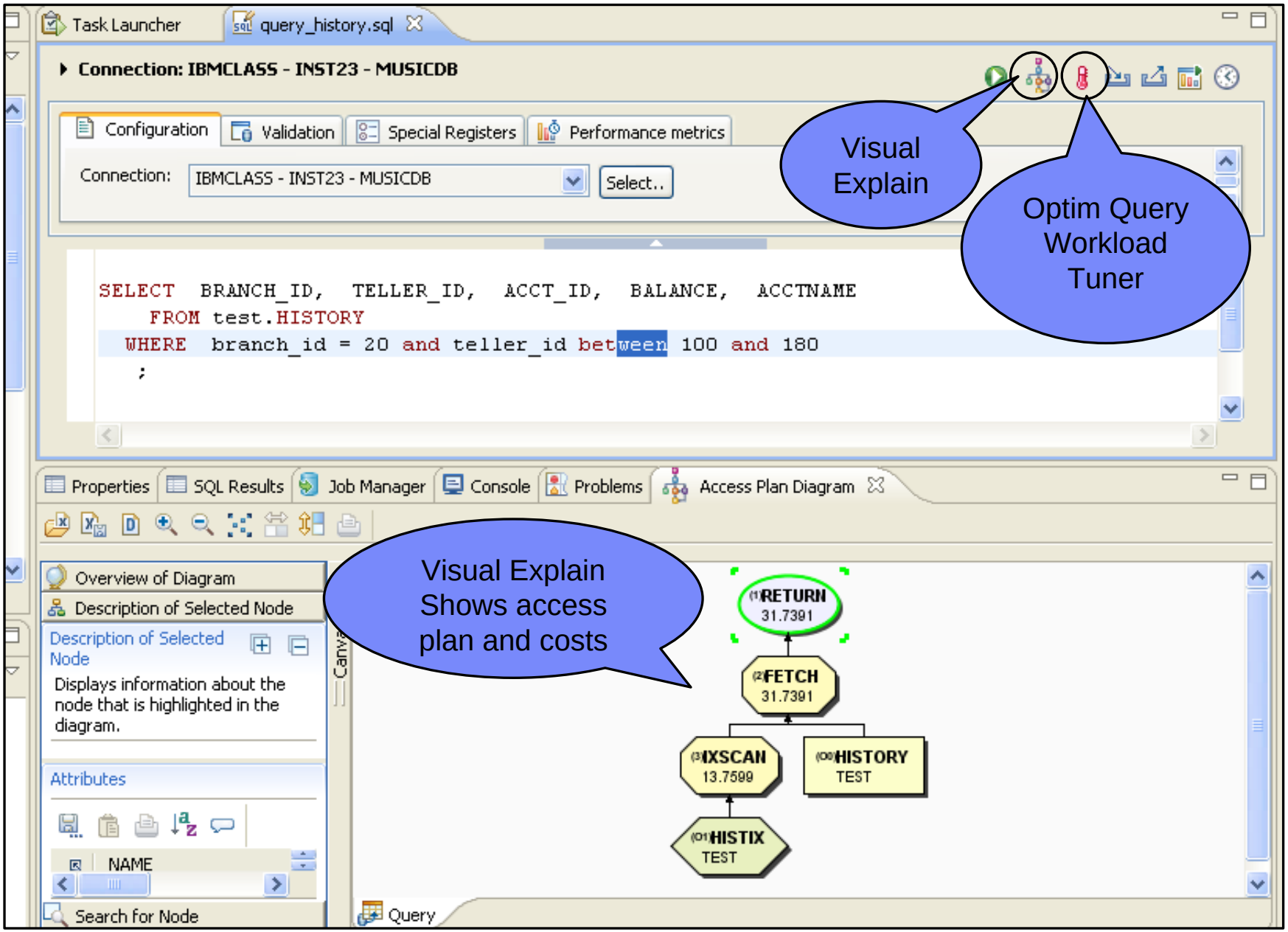
Data Studio – working with generated change plans



Data Studio – Running SQL Scripts



Data Studio – Visual Explain for SQL queries



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