Employees Sample Database

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For legal information, see the Legal Notices.

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1 Preface and Legal Notices

This document describes the `employees` sample database—its history, installation, structure and usage.

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2 Introduction

This document describes the Employees sample database.

The Employees sample database was developed by Patrick Crews and Giuseppe Maxia and provides a combination of a large base of data (approximately 160MB) spread over six separate tables and consisting of 4 million records in total. The structure is compatible with a wide range of storage engine types. Through an included data file, support for partitioned tables is also provided.

In addition to the base data, the Employees database also includes a suite of tests that can be executed across the test data to ensure the integrity of the data that you have loaded. This should help ensure the quality of the data during initial load, and can be used after usage to ensure that no changes have been made to the database during testing.

3 Installation

The Employees database is available from Employees DB on GitHub. You can download a prepackaged archive of the data, or access the information through Git.

To use the Zip archive package, download the archive and unpack it using `WinZip` or another tool that can read `.zip` files, then change location into the unpacked package directory. For example, using `unzip`, execute these commands:

```
$> unzip test_db-master.zip
$> cd test_db-master/
```

The Employees database is compatible with several different storage engines, with the InnoDB engine enabled by default. Edit the `employees.sql` file and adjust the comments to choose a different storage engine:

```
   set storage_engine = InnoDB;
-- set storage_engine = MyISAM;
-- set storage_engine = Falcon;
-- set storage_engine = PBXT;
-- set storage_engine = Maria;
```

To import the data into your MySQL instance, load the data through the `mysql` command-line tool:

```
$> mysql -t < employees.sql
+-----------------------------+
| INFO                        |
+-----------------------------+
| CREATING DATABASE STRUCTURE |
+-----------------------------+
+------------------------+
| INFO                   |
+------------------------+
| storage engine: InnoDB |
+------------------------+
+----------------------+
| INFO                 |
+----------------------+
| LOADING departments |
+----------------------+
+-------------------+
| INFO              |
+-------------------+
| LOADING employees |
+-------------------+
+------------------+
| INFO             |
+------------------+
| LOADING dept_emp |
+------------------+
+----------------------+
| INFO                 |
+----------------------+
| LOADING dept_manager |
+----------------------+
+----------------+
| INFO           |
+----------------+
| LOADING titles |
+----------------+
+------------------+
| INFO             |
+------------------+
| LOADING salaries |
+------------------+
```

To test that the data you have loaded matches the expected results, run the test suite. For more information, see Section 4, “Validating the Employee Data”.

4 Validating the Employee Data

You can validate the Employee data using two methods, `md5` and `sha`. Two SQL scripts are provided for this purpose, `test_employees_sha.sql` and `test_employees_md5.sql`. To run the tests, use `mysql`:

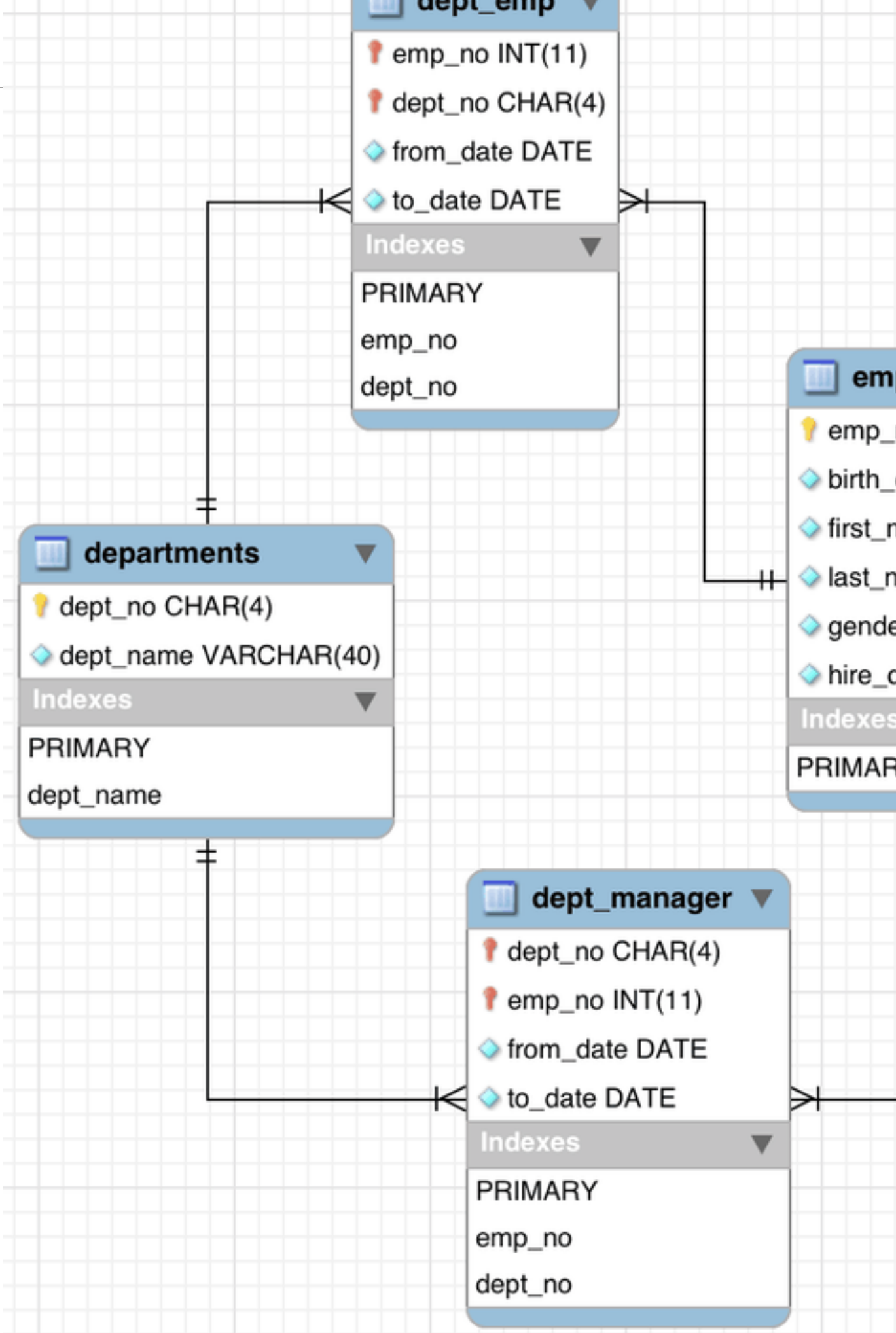
```
$>time mysql -t < test_employees_sha.sql
+----------------------+
| INFO                 |
+----------------------+
| TESTING INSTALLATION |
+----------------------+
```

```
+--------------+------------------+------------------------------------------+
| table_name   | expected_records | expected_crc                             |
+--------------+------------------+------------------------------------------+
| employees    |           300024 | 4d4aa689914d8fd41db7e45c2168e7dcb9697359 |
| departments  |                9 | 4b315afa0e35ca6649df897b958345bcb3d2b764 |
| dept_manager |               24 | 9687a7d6f93ca8847388a42a6d8d93982a841c6c |
| dept_emp     |           331603 | f16f6ce609d032d6b1b34748421e9195c5083da8 |
| titles       |           443308 | d12d5f746b88f07e69b9e36675b6067abb01b60e |
| salaries     |          2844047 | b5a1785c27d75e33a4173aaa22ccf41ebd7d4a9f |
+--------------+------------------+------------------------------------------+
+--------------+------------------+------------------------------------------+
| table_name   | found_records    | found_crc                                |
+--------------+------------------+------------------------------------------+
| employees    |           300024 | 4d4aa689914d8fd41db7e45c2168e7dcb9697359 |
| departments  |                9 | 4b315afa0e35ca6649df897b958345bcb3d2b764 |
| dept_manager |               24 | 9687a7d6f93ca8847388a42a6d8d93982a841c6c |
| dept_emp     |           331603 | f16f6ce609d032d6b1b34748421e9195c5083da8 |
| titles       |           443308 | d12d5f746b88f07e69b9e36675b6067abb01b60e |
| salaries     |          2844047 | b5a1785c27d75e33a4173aaa22ccf41ebd7d4a9f |
+--------------+------------------+------------------------------------------+
+--------------+---------------+-----------+
| table_name   | records_match | crc_match |
+--------------+---------------+-----------+
| employees    | OK            | ok        |
| departments  | OK            | ok        |
| dept_manager | OK            | ok        |
| dept_emp     | OK            | ok        |
| titles       | OK            | ok        |
| salaries     | OK            | ok        |
+--------------+---------------+-----------+

real 0m37.067s
user 0m0.007s
sys 0m0.009s

$>time mysql -t < test_employees_md5.sql
+----------------------+
| INFO                 |
+----------------------+
| TESTING INSTALLATION |
+----------------------+
+--------------+------------------+----------------------------------+
| table_name   | expected_records | expected_crc                     |
+--------------+------------------+----------------------------------+
| employees    |           300024 | 4ec56ab5ba37218d187cf6ab09ce1aa1 |
| departments  |                9 | d1af5e170d2d1591d776d5638d71fc5f |
| dept_manager |               24 | 8720e2f0853ac9096b689c14664f847e |
| dept_emp     |           331603 | c2c4fc7f0506e50959a6c67ad55cac31 |
| titles       |           443308 | bfa016c472df68e70a03facafa1bc0a8 |
| salaries     |          2844047 | fd220654e95aea1b169624ffe3fca934 |
+--------------+------------------+----------------------------------+
+--------------+------------------+----------------------------------+
| table_name   | found_records    | found_crc                        |
+--------------+------------------+----------------------------------+
| employees    |           300024 | 4ec56ab5ba37218d187cf6ab09ce1aa1 |
| departments  |                9 | d1af5e170d2d1591d776d5638d71fc5f |
| dept_manager |               24 | 8720e2f0853ac9096b689c14664f847e |
| dept_emp     |           331603 | c2c4fc7f0506e50959a6c67ad55cac31 |
| titles       |           443308 | bfa016c472df68e70a03facafa1bc0a8 |
| salaries     |          2844047 | fd220654e95aea1b169624ffe3fca934 |
+--------------+------------------+----------------------------------+
+--------------+---------------+-----------+
| table_name   | records_match | crc_match |
+--------------+---------------+-----------+
| employees    | OK            | ok        |
| departments  | OK            | ok        |
| dept_manager | OK            | ok        |
| dept_emp     | OK            | ok        |
| titles       | OK            | ok        |
| salaries     | OK            | ok        |
+--------------+---------------+-----------+
```

```
real 0m33.453s
user 0m0.007s
sys 0m0.009s
```

5 Employees Structure

The following diagram provides an overview of the structure of the Employees sample database.


emp_no INT(11)
dept_no CHAR(4)
from_date DATE
to_date DATE
Indexes
PRIMARY
emp_no
dept_no
departments
dept_no CHAR(4)
dept_name VARCHAR(40)
Indexes
PRIMARY
dept_name
dept_manager
dept_no CHAR(4)
emp_no INT(11)
from_date DATE
to_date DATE
Indexes
PRIMARY
emp_no
dept_no

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