

Chapter 1

Creating and Populating a Database

1.1 MySQL Data Types

1.1.1 Character Data

Character data can be stored as either fixed-length or variable-length strings; the difference is that fixed-length strings are right-padded with spaces and always consume the same number of bytes, and variable-length strings are not right-padded with spaces and don't always consume the same number of bytes.

The maximum length for char columns is currently 255 bytes, whereas varchar columns can be up to 65,535 bytes. If you need to store longer strings (such as emails, XML documents, etc.), then you will want to use one of the text types (mediumtext and longtext).

An exception is made in the use of varchar for Oracle Database. Oracle users should use the varchar2 type when defining variable-length character columns.

Character sets

You may choose to use a different character set for each character column in your database, and you can even store different character sets within the same table. To choose a character set other than the default when defining a column, simply name one of the supported character sets after the type definition.

```
varchar(20) character set latin1
```

With MySQL, you may also set the default character set for your entire database:

```
create database european_sales character set latin1;
```

Text data

If you need to store data that might exceed the 64 KB limit for varchar columns, you will need to use one of the text types.

When choosing to use one of the text types, you should be aware of the following:

表 1.1: MySQL text types

Text type	Maximum number of bytes
tinytext	255
text	65,535
mediumtext	16,777,215
longtext	4,294,967,295

- If the data being loaded into a text column exceeds the maximum size for that type, the data will be truncated.
- Trailing spaces will not be removed when data is loaded into the column.
- When using text columns for sorting or grouping, only the first 1,024 bytes are used, although this limit may be increased if necessary.