



Import a CSV File Into an SQLite Table

Summary: in this tutorial, you will learn various ways to import CSV data into an SQLite table using `sqlite3` and SQLite Studio tools.

Importing a CSV file into a table using `sqlite3` tool

In the first scenario, you want to import data from CSV file into a table that does not exist in the SQLite database.

1. First, the `sqlite3` tool creates the table. The `sqlite3` tool uses the first row of the CSV file as the names of the columns of the table.
2. Second, the `sqlite3` tool import data from the second row of the CSV file into the table.

We will import a CSV file named `city.csv` with two columns: name and population. You can download it here for practicing.

[Download the city.csv file](#)

To import the `c:\sqlite\city.csv` file into the cities table:

First, set the mode to CSV to instruct the command-line shell program to interpret the input file as a CSV file. To do this, you use the `.mode` command as follows:

```
sqlite> .mode csv
```

Second, use the command `.import FILE TABLE` to import the data from the `city.csv` file into the cities table.

```
sqlite>.import c:/sqlite/city.csv cities
```

To verify the import, you use the command `.schema` to display the structure of the `cities` table.

```
sqlite> .schema cities  
CREATE TABLE cities(  
    name TEXT,  
    population INTEGER,  
    PRIMARY KEY (name)
```

```
"name" TEXT,  
"population" TEXT  
);
```

To view the data of the `cities` table, you use the following `SELECT` statement.

```
SELECT  
    name,  
    population  
FROM  
    cities;
```

In the second scenario, the table is already available in the database and you just need to import the data.

First, `drop` the `cities` table that you have created.

```
DROP TABLE IF EXISTS cities;
```

Second, use the following `CREATE TABLE` statement to create the table `cities`.

```
CREATE TABLE cities(  
    name TEXT NOT NULL,  
    population INTEGER NOT NULL  
);
```

If the table already exists, the `sqlite3` tool uses all the rows, including the first row, in the CSV file as the actual data to import. Therefore, you should delete the first row of the CSV file.

The following commands import the `city_without_header.csv` file into the `cities` table.

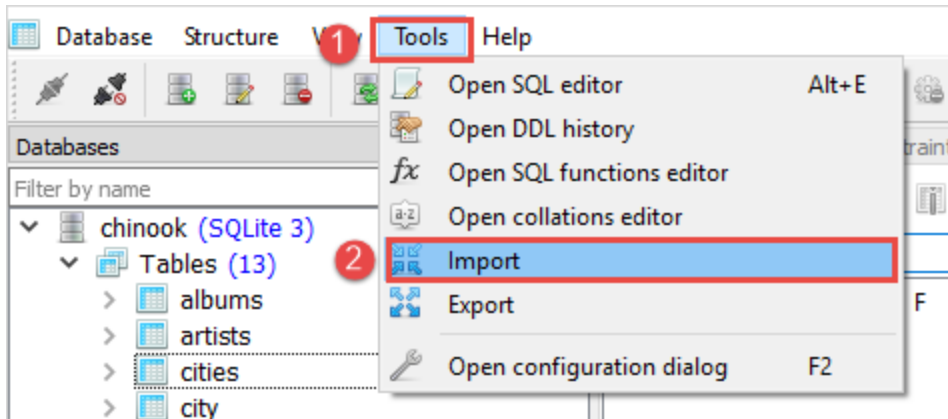
```
sqlite> .mode csv  
sqlite> .import c:/sqlite/city_no_header.csv cities
```

Import a CSV file into a table using SQLite Studio

Most SQLite GUI tools provide the import function that allows you to import data from a file in CSV format, tab-delimited format, etc., into a table.

We will use the SQLite Studio to show you how to import a CSV file into a table with the assumption that the target table already exists in the database.

First, from the menu choose tool menu item.



Second, choose the database and table that you want to import data then click the **Next** button.

Third, choose CSV as the data source type, choose the CSV file in the **Input file** field, and choose the **,(comma)** option as the **Field separator** as shown in the picture below. Then click the **Finish**

button to import the data.

In this tutorial, you have learned how to use the `sqlite3` and SQLite Studio to import data from a CSV file into a table in the SQLite database.