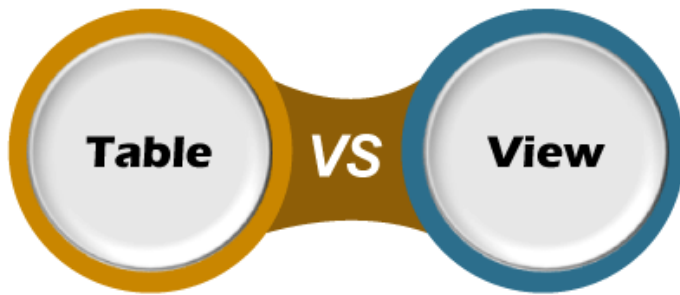


Difference between Table and View

Table and view are the two basic terms used in the relational database environment. The difference between table and view is debated among beginners and database administrators (DBA) because both share some common similarities. The main difference between them is that a **table is an object that consists of rows and columns to store and retrieve data** whenever the user needs it. In contrast, the **view is a virtual table based on an SQL statement's result set** and will disappear when the current session is closed. In this article, we are going to discuss comparisons between tables and views based on various aspects.



What is a table?

A table **consists of rows and columns used to organize data** to store and display records in a structured format. It is similar to worksheets in the spreadsheet application. It occupies space on our systems. We need three things to create a table:

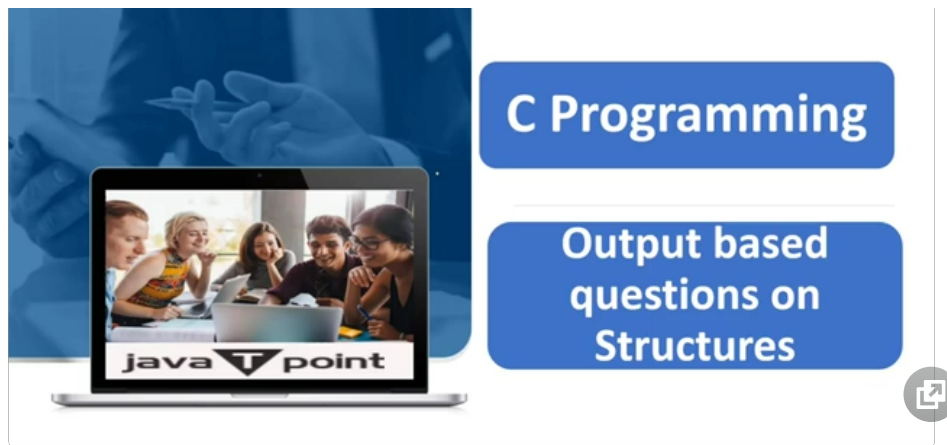
- Table name
- Columns/Fields name
- Definitions for each field

We can create a table in **MySQL** using the below syntax:

```
CREATE TABLE [IF NOT EXISTS] table_name (  
    column_definition1,  
    column_definition2,  
    .....,  
    table_constraints  
);
```

The following are the main advantages of the table:





1. It provides an efficient way to summarize the given information into a structured form that helps to find out the information quickly.
2. It allows us to add the data in a specific way rather than in a paragraph that makes the data more understandable.
3. It enables **quick searching** for the data we need.
4. It helps in introducing relationships between various data using **referential constraints**.
5. It can be associated with data security that allowing only authorized people for data accessing.

What is a view?

The view is a **virtual/logical table** formed as a result of a query and used to view or manipulate parts of the table. We can create the columns of the view from one or more tables. Its content is based on **base tables**.

The view is a database object with no values and contains rows and columns the same as real tables. It **does not occupy space** on our systems.

We can create a view in MySQL using the below syntax:

```
CREATE VIEW view_name AS  
SELECT columns  
FROM tables  
[WHERE conditions];
```

The following are the main advantages of the view:

1. Views are usually virtual and do not occupy space in systems.
2. Views enable us to hide some of the columns from the table.
3. It simplifies complex queries because it can draw data from multiple tables and present it as a single table.
4. It helps in **data security** that shows only authorized information to the users.

5. It presents a consistent, unchanged image of the database structure, even if the source tables are renamed, split, or restructured.

Key differences between Table and View

The following points explain the differences between tables and views:


- A table is a database object that holds information used in applications and reports. On the other hand, a view is also a database object utilized as a table and can also link to other tables. 
- A table consists of rows and columns to store and organized data in a structured format, while the view is a result set of SQL statements.
- A table is **structured** with columns and rows, while a view is a virtual table **extracted** from a database.
- The table is an independent data object while views are usually depending on the table.
- The table is an **actual or real table** that exists in physical locations. On the other hand, views are the **virtual or logical table** that does not exist in any physical location.
- A table allows to performs add, update or delete operations on the stored data. On the other hand, we cannot perform add, update, or delete operations on any data from a view. If we want to make any changes in a view, we need to update the data in the source tables.
- We cannot **replace** the table object directly because it is stored as a physical entry. In contrast, we can easily use the replace option to recreate the view because it is a pseudo name to the SQL statement running behind on the database server.

Table vs. View Comparison Chart

The following comparison chart explains their main differences in a quick manner:

SN	Table	View
1.	A table is used to organize data in the form of rows and columns and displayed them in a structured format. It makes the stored information more understandable to the human.	Views are treated as a virtual/logical table used to view or manipulate parts of the table. It is a database object that contains rows and columns the same as real tables.
2.	Table is a physical entity that means data is actually stored in the table.	The view is a virtual entity, which means data is not actually stored in the table.
3.	It is used to store the data.	It is used to extract data from the table.
4.	It generates a fast result.	The view generates a slow result because it renders the information from the table every time we query it.

5.	It is an independent data object.	It depends on the table. Therefore we cannot create a view without using tables.
6.	Table allows us to perform DML operations.	The view will enable us to perform DML operations.
7.	It is not an easy task to replace the table directly because of its physical storage.	It is an easy task to replace the view and recreate it whenever needs.
8.	It occupies space on the systems.	It does not occupy space on the systems.

Conclusion

In this article, we have made a comparison between table and view that are two database objects. A user cannot create a view without using tables because it depends on the table.

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