

DB

VIEWS



OBJECTIVES FOR TODAY



- VIEWS

https://www.w3schools.com/sql/sql_view.asp

<https://www.datacamp.com/community/tutorials/views-in-sql>

The following SQL selects all customers from Brazil:

```
SELECT CustomerName  
FROM Customers  
WHERE Country = "Brazil";
```

Customer

■	■	■	■
■	■	■	■
■	■	■	■
■	■	■	■
■	■	■	■



■
■
■

The following SQL **creates a view** that selects all customers from Brazil:

```
CREATE VIEW BrazilCustomers AS  
SELECT CustomerName  
FROM Customers  
WHERE Country = "Brazil";
```

Customer



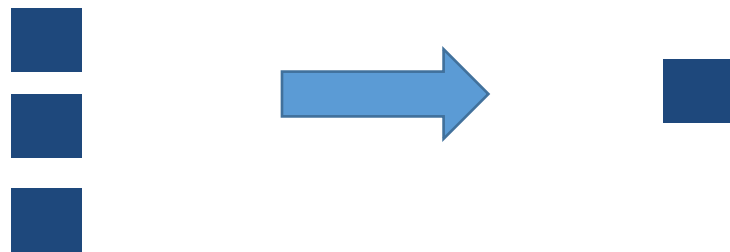
BrazilCustomers

Virtual table

We can then **query the view** as follows:

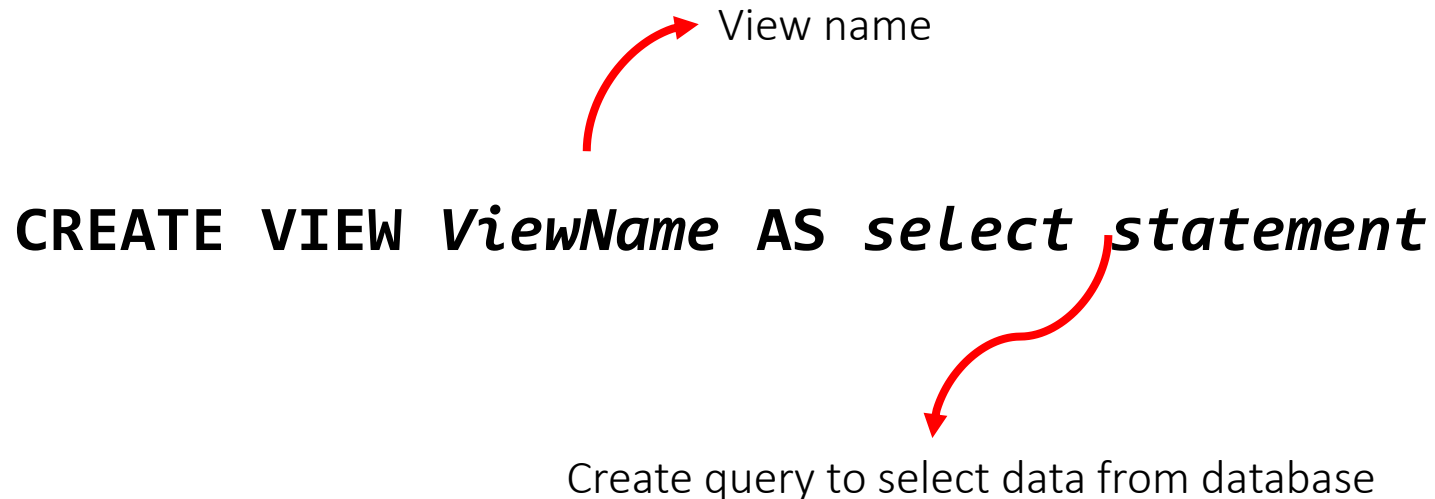
```
SELECT * FROM [BrazilCustomers]  
WHERE BrazilCustomers.CustomerName == "ronan" ;
```

BrazilCustomers



What is a view ?

A view is a **virtual table** based on the result of an SQL statement.



The diagram illustrates the SQL syntax for creating a view. It features the command `CREATE VIEW ViewName AS select statement`. A red curved arrow points from the text "View name" to the `ViewName` in the command. Another red curved arrow points from the text "Create query to select data from database" to the `select statement` part of the command.

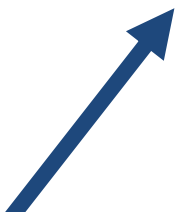
View name

```
CREATE VIEW ViewName AS select statement
```

Create query to select data from database

What is a view ?

- ✓ You can select data from **multiple tables**
- ✓ It does **not hold** the data



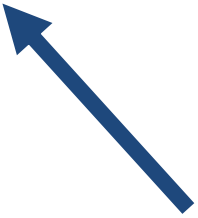
it holds only the
definition of the view



It is computed **dynamically**, whenever
the user performs any query on it.

Why do we need to create views ?

- ✓ Simplify the **complex** SQL queries.
- ✓ Provide **restriction** to users from accessing sensitive data.



For example, a user has permission to access particular columns of data **rather than the whole table**.

Example of views

Employee

EmployeeID	Ename	DeptID	Salary
1001	John	2	4000
1002	Anna	1	3500
1003	James	1	2500
1004	David	2	5000
1005	Mark	2	3000
1006	Steve	3	4500
1007	Alice	3	3500

```
CREATE VIEW emp_view AS  
SELECT EmployeeID, Ename  
FROM Employee  
WHERE DeptID=2;
```

Creating View
by filtering
records using
WHERE clause

emp_view

EmployeeID	Ename	DeptID	Salary
1001	John	2	4000
1004	David	2	5000
1005	Mark	2	3000

Example of views

Employee

EmployeeID	Ename	DeptID	Salary
1001	John	2	4000
1002	Anna	1	3500
1003	James	1	2500
1004	David	2	5000
1005	Mark	2	3000
1006	Steve	3	4500
1007	Alice	3	3500

```
CREATE VIEW emp_view AS  
SELECT DeptID, AVG(Salary)  
FROM Employee  
GROUP BY DeptID;
```

Create View of
grouped records
on Employee
table

emp_view

DeptID	AVG(Salary)
1	3000.00
2	4000.00
3	4250.00

Operations on VIEWS

CREATE

```
CREATE VIEW viewName AS  
SELECT *  
FROM Customers
```

REMOVE

```
DROP VIEW viewName
```

Good and bad points on view



- ✓ Hide the complexity
- ✓ Allow to protect some data



- ✓ Can take time to compute
- ✓ Can create dependencies

EXERCICES !