

Sql-Pivot and Unpivot

Here's a summary of the Pivot and Unpivot operations in advanced SQL, along with examples:

Pivot

The PIVOT operation is used to rotate rows into columns. It takes a set of values from one column and transforms them into separate columns.

Syntax:

```
SELECT column1, [column2], ..., [columnN]
FROM table_name
PIVOT (
    aggregate_function (sum | avg | max | min | count)
    FOR column_name IN ([value1], [value2], ..., [valueN])
)
```

Example:

Suppose we have a table `Sales` with the following data:

```
+-----+-----+
| Product| Sales |
+-----+-----+
| A      | 100  |
| B      | 200  |
| C      | 300  |
| A      | 150  |
| B      | 250  |
| C      | 350  |
+-----+-----+
```

We want to pivot this data to show the sales for each product in separate columns. We can use the following query:

```
SELECT Product, [A], [B], [C]
FROM Sales
PIVOT (
    SUM(Sales)
    FOR Product IN ([A], [B], [C])
);
```

Result:

```

+-----+-----+-----+
| Product| A | B | C |
+-----+-----+-----+
| A      | 250| 0 | 0 |
| B      | 0 | 450| 0 |
| C      | 0 | 0 | 650|
+-----+-----+-----+

```

Unpivot

The UNPIVOT operation is used to rotate columns into rows. It takes a set of values from multiple columns and transforms them into separate rows.

Syntax:

```

SELECT column1, [column2], ..., [columnN]
FROM table_name
UNPIVOT (
    value_column
    FOR column_name IN ([value1], [value2], ..., [valueN])
)

```

Example:

Suppose we have a table **Sales** with the following data:

```

+-----+-----+-----+
| Product| A | B | C |
+-----+-----+-----+
| A      | 250| 0 | 0 |
| B      | 0 | 450| 0 |
| C      | 0 | 0 | 650|
+-----+-----+-----+

```

We want to unpivot this data to show each product and its corresponding sales in separate rows. We can use the following query:

```

SELECT Product, Sales
FROM Sales
UNPIVOT (
    Sales
    FOR Product IN ([A], [B], [C])
);

```

Result:

```
+-----+-----+
| Product| Sales |
+-----+-----+
| A      | 250  |
| B      | 450  |
| C      | 650  |
+-----+-----+
```

I hope this helps! Let me know if you have any questions or need further clarification.

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