

Sistemas Multidimensionales

Práctica 3

**Diseño e Implementación de Esquemas de Bases de  
Datos Multidimensionales**

**Pentaho Aggregation Designer  
MDX, SQL3 (PostgreSQL)**



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## Consulta MDX

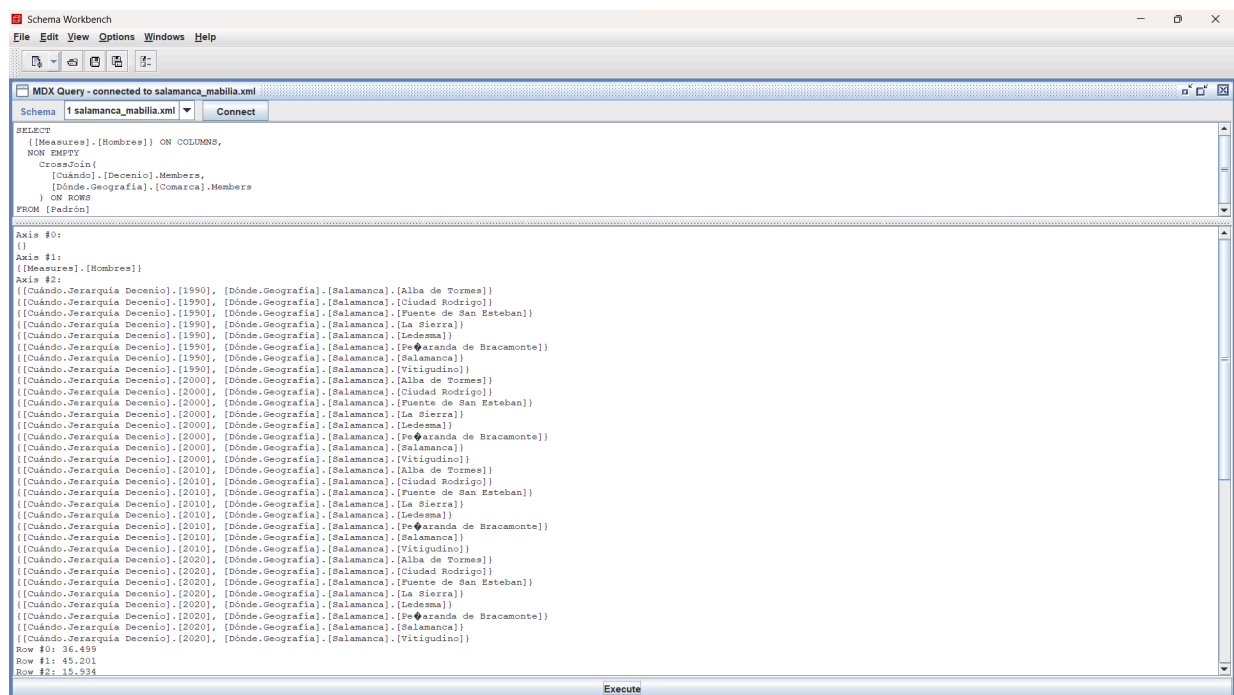
### Título

"Número de hombres por decenio y comarca en Salamanca"

### Consulta

```
SELECT
{[Measures].[Hombres]} ON COLUMNS,
NON EMPTY
CrossJoin(
[Cuándo].[Decenio].Members,
[Dónde.Geografía].[Comarca].Members
) ON ROWS
FROM [Padrón]
```

### Captura de pantalla completa



## Consulta SQL3

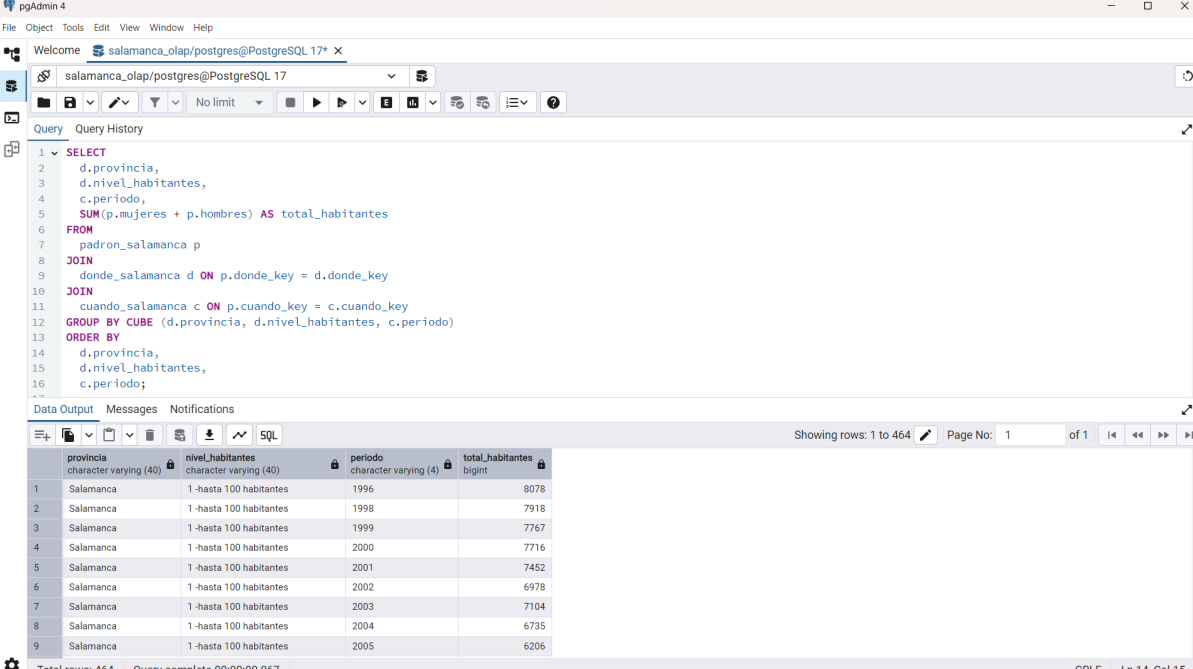
### Título

“Habitantes por Provincia, Nivel (de Habitantes) y Periodo”

## Consulta

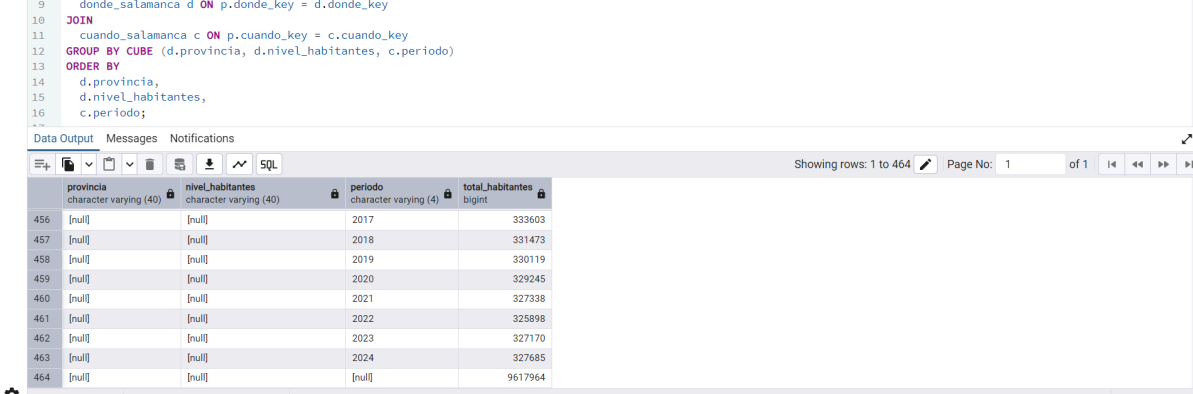
```
SELECT
    d.provincia,
    d.nivel_habitantes,
    c.periodo,
    SUM(p.mujeres + p.hombres) AS total_habitantes
FROM
    padron_salamanca p
JOIN
    donde_salamanca d ON p.donde_key = d.donde_key
JOIN
    cuando_salamanca c ON p.cuando_key = c.cuando_key
GROUP BY CUBE (d.provincia, d.nivel_habitantes, c.periodo)
ORDER BY d.provincia, d.nivel_habitantes, c.periodo;
```

## Captura de pantalla completa



The screenshot shows the pgAdmin 4 interface. The top toolbar includes File, Object, Tools, Edit, View, Window, and Help. The main window displays a SQL query in the 'Query' tab. The query is a cube query that sums the number of women and men for each province and period, grouped by province, number of inhabitants, and period. The results are shown in a table with 464 rows. The table has four columns: provincia (character varying (40)), nivel\_habitantes (character varying (40)), periodo (character varying (4)), and total\_habitantes (bigint). The data shows results for the years 1996 to 2005, with the total number of inhabitants increasing over time.

provincia	nivel_habitantes	periodo	total_habitantes
Salamanca	1-hasta 100 habitantes	1996	8078
Salamanca	1-hasta 100 habitantes	1998	7918
Salamanca	1-hasta 100 habitantes	1999	7767
Salamanca	1-hasta 100 habitantes	2000	7716
Salamanca	1-hasta 100 habitantes	2001	7452
Salamanca	1-hasta 100 habitantes	2002	6978
Salamanca	1-hasta 100 habitantes	2003	7104
Salamanca	1-hasta 100 habitantes	2004	6735
Salamanca	1-hasta 100 habitantes	2005	6206

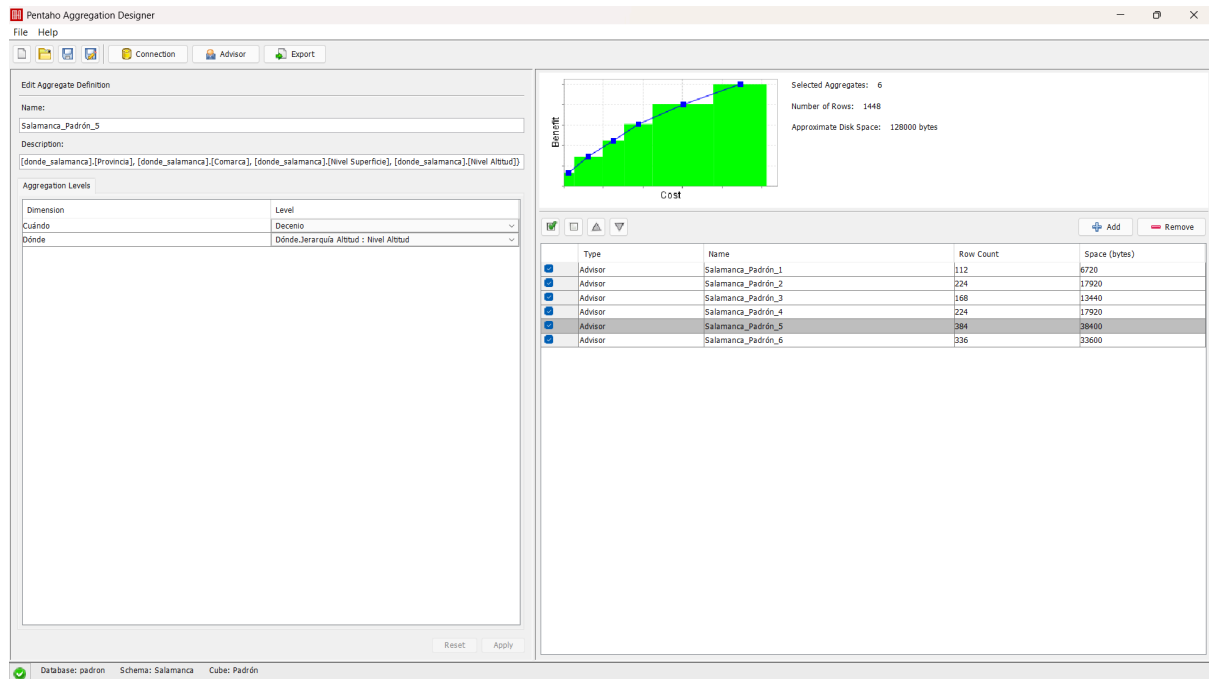


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provincia	nivel_habitantes	periodo	total_habitantes
[null]	[null]	2017	333603
[null]	[null]	2018	331473
[null]	[null]	2019	330119
[null]	[null]	2020	329245
[null]	[null]	2021	327338
[null]	[null]	2022	325898
[null]	[null]	2023	327170
[null]	[null]	2024	327685
[null]	[null]	[null]	9617964

## Agregados Pentaho Aggregation Designer

La herramienta ha recomendado 6 agregados, tal como podemos ver en la siguiente imagen:



De estos, estima que el 5 será el que tiene mayor número de instancias:

