

# SQL Server Tutorial

## Part 98 - Difference between WHERE and HAVING in SQL Server

Venkat

PRAGIM Technologies

[kudvenkat@gmail.com](mailto:kudvenkat@gmail.com)

<http://csharp-video-tutorials.blogspot.com>

PragimTech.com | facebook.com/pragimtech | twitter.com/kudvenkat | 91 99456 99393

# In this session we will learn

- Difference between WHERE and HAVING clauses in SQL Server

**Link to Dot Net Basics, ASP.NET, C#, ADO.NET and SQL Server video series**

<http://www.youtube.com/user/kudvenkat/playlists>

## **Suggested Videos**

**Part 95 - Audit table changes in SQL Server**

**Part 96 - Logon triggers in SQL Server**

**Part 97 - SELECT INTO in SQL Server**

# Difference between WHERE and HAVING


If you are in need of the DVD with all the videos and PPT's, please visit

<http://pragimtech.com/order.aspx>

Sales	
Product	SaleAmount
iPhone	500
Laptop	800
iPhone	1000
Speakers	400
Laptop	600

Calculate total sales by product

```
SELECT Product, SUM(SaleAmount) AS TotalSales
FROM Sales
GROUP BY Product
```




Product	TotalSales
iPhone	1500
Laptop	1400
Speakers	400

# Difference between WHERE and HAVING

Find only those products where the total sales amount is greater than \$1000


```
SELECT Product, SUM(SaleAmount) AS TotalSales
FROM Sales
GROUP BY Product
HAVING SUM(SaleAmount) > 1000
```



Product	TotalSales
iPhone	1500
Laptop	1400

If we use **WHERE** clause instead of **HAVING** clause, we will get a syntax error. This is because the **WHERE** clause doesn't work with aggregate functions like sum, min, max, avg, etc.

```
SELECT Product, SUM(SaleAmount) AS TotalSales
FROM Sales
GROUP BY Product
WHERE SUM(SaleAmount) > 1000
```



```
Msg 156, Level 15, State 1, Line 4
Incorrect syntax near the keyword 'WHERE'.
```

So in short, the difference is **WHERE** clause cannot be used with aggregates where as **HAVING** can

# Difference between WHERE and HAVING

**WHERE** clause filters rows before aggregate calculations are performed where as **HAVING** clause filters rows after aggregate calculations are performed

Total sales of iPhone and Speakers can be calculated by using either WHERE or HAVING clause

```
SELECT Product, SUM(SaleAmount) AS TotalSales
FROM Sales
WHERE Product in ('iPhone', 'Speakers')
GROUP BY Product
```

Product	TotalSales
iPhone	1500
Speakers	400

```
SELECT Product, SUM(SaleAmount) AS TotalSales
FROM Sales
GROUP BY Product
HAVING Product in ('iPhone', 'Speakers')
```

**WHERE** clause filters rows before aggregate calculations are performed where as **HAVING** clause filters rows after aggregate calculations are performed. **So from a performance standpoint, HAVING is slower than WHERE and should be avoided when possible.**

# Difference between WHERE and HAVING

**WHERE** clause cannot be used with aggregates where as **HAVING** can. This means **WHERE** clause is used for filtering individual rows where as **HAVING** clause is used to filter groups.

**WHERE** comes before **GROUP BY**. This means **WHERE** clause filters rows before aggregate calculations are performed. **HAVING** comes after **GROUP BY**. This means **HAVING** clause filters rows after aggregate calculations are performed. So from a performance standpoint, **HAVING** is slower than **WHERE** and should be avoided when possible.

**WHERE** and **HAVING** can be used together in a **SELECT** query. In this case **WHERE** clause is applied first to filter individual rows. The rows are then grouped and aggregate calculations are performed, and then the **HAVING** clause filter the groups.

# Additional Resources

## PRAGIM Home Page:

[www.PragimTech.com](http://www.PragimTech.com)

## Resources:

C#, ADO.NET, ASP.NET, SQL Server & MVC youtube Playlists

<http://www.youtube.com/user/kudvenkat/playlists>

Code samples and text version of all the videos on my blog

<http://www.csharp-video-tutorials.blogspot.com>

To receive email alerts when new videos are uploaded, please subscribe to my YOUTUBE channel

[www.YouTube.com/kudvenkat](http://www.YouTube.com/kudvenkat)

<https://twitter.com/kudvenkat>