

Hands-On-2

Microsoft SQL Certification Training

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#Querying A Large Database[Adventure Works]

**Problem Statement:**

In this hands-on, you will learn how to query a large database. Here you will work on downloading a database and restoring it to the server. You will then query the database to get the required details as per the tasks given in the questions.

**Prerequisites:**

1) Download the Adventure Works database from the following location and restore it in your server

**Location:**

<https://docs.microsoft.com/en-us/sql/samples/adventureworks-install-configure?view=sql-server-ver15&tabs=ssms>

**File Name:**

[AdventureWorksLT2019.bak](https://github.com/Microsoft/sql-server-samples/releases/download/adventureworks/AdventureWorksLT2019.bak)

2) **AdventureWorks** is a sample database shipped with SQL Server, and it can be downloaded from the GitHub site. AdventureWorks has replaced Northwind and Pubs sample databases that were available in SQL Server 2005. Microsoft keeps updating the sample database as it releases new versions.

3) **Restore Backup**

Follow the below steps to restore a backup of your database using SQL Server Management Studio:

* Open SQL Server Management Studio and connect to the target SQL Server instance
* Right-click on the Databases node and select Restore Database
* Select Device and click on the ellipsis (...)
* In the dialog, select Backup devices, click on Add, navigate to the database backup in the file system of the server, select the backup, and click on OK.
* If needed, change the target location for the data and log files in the Files pane
* **Note:** It is a best practice to place the data and log files on different drives.
* Now, click on OK.
* This will initiate the database restoration. After it completes, you will have the AdventureWorksLT2019 database installed on your SQL Server instance.

**Perform the following tasks with help of the above database.**

1. Display the company name for Donna F. Carreras.
2. Show all the addresses listed for 'Great Bikes'
3. Display the company names along with the count of all the listed addresses for each company.
4. Display the company names which start with the letter g.
5. Display the count of companies whose name starts with ‘I’.
6. Display the OrdeQty, the Name, and the ListPrice of the order made by CustomerID 29781.
7. Display the count of customers who didn't purchase anything.
8. How many products did each customer purchase?
9. Display the name of the customers who have purchased the least amount of products.
10. Display the name of the customers who have purchased the maximum amount of products.
11. Show the first name and the email address of the customer with CompanyName 'Associated Bikes'
12. How many companies are associated with each customer?
13. Which customer is associated with a maximum number of companies?
14. Show the CompanyName for all customers with an address in City 'Dallas'.
15. How many companies are there in each city?
16. Display the name of the city with the maximum number of companies associated with it.
17. Give the names of the customers with the address in the state province of Ontario.
18. In total how many regions are the customers spread across in the given data?
19. How many customers have their address in the country region as the United States
20. What are the different address types that are included with the data?
21. How many items with ListPrice less than $10 have been sold?
22. What is the maximum list price among all the products?
23. What are the different colors of products available in the market?
24. Display the product names which are related to Road bikes.
25. How many women purchased shorts
26. How many silver Mountain bikes were purchased by the customers.
27. Which color of the road bikes is most famous.
28. What all are the colors available for gloves.
29. What is the maximum weight of a mountain bike?
30. Display the names of the product models of mountain bikes.
31. Which mountain bike model has been purchased more often.
32. Give the CompanyName of those customers with orders over $100000. Include the subtotal plus tax plus freight.
33. Find the number of large racing socks ('Racing Socks, L') ordered by CompanyName 'Riding Cycles'
34. A "Single Item Order" is a customer order where only one item is ordered. Show the SalesOrderID and the UnitPrice for every Single Item Order.
35. What is the product\_id in which the maximum quantity has been ordered?
36. How many years did they sell product id 820?
37. List the product name and the CompanyName for all Customers who ordered the product-model Racing Socks'.
38. Display the sales order ids and how many days did it take to ship the product from the date they have ordered it.
39. Show the product description for culture 'fr' for the product with ProductID 736.
40. Use the SubTotal value in SaleOrderHeader to list orders from the largest to the smallest. For each order show the CompanyName and the SubTotal and the total weight of the order.
41. How many products in ProductCategory 'Cranksets' have been sold to an address in 'London'?
42. Display the names of the customers whose address line1 is Free street.
43. How many products are not having sell end dates?
44. Give the names of the parent products.
45. Which are the child products of Bikes.
46. What are the different cultures of the products available in the market?
47. How many products are of 'th' culture?
48. What are the names of the products that are having catalog descriptions?
49. How many sales were given unit price discount?