Innovative IT Solutions

Iocane

Interview Practical

Report Analyst

Author: Tom Aylen

Version: 1
Release Date: 02/08/2021
Status: Release

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Contents

1 Requirements

1.1 Software

The following software is required for completing the following practical interview.

Visual Studio Community

https://visualstudio.microsoft.com/downloads/

SQL Server Data Tools (SSDT) for Visual Studio

https://docs.microsoft.com/en-us/sql/ssdt/download-sql-server-data-tools-ssdt?view=sql-server-ver15

Microsoft Reporting Services Projects Extension for Visual Studio

Installed from Visual Studio menu: Extensions > search for name

https://marketplace.visualstudio.com/items?itemName=ProBITools.MicrosoftReportProjectsforVisualStudio

SQL Server Express

The Visual Studio Project is configured to use the default server name of './SQLEXPRESS'. Using the same name will avoid having to change it in the project.

https://www.microsoft.com/en-us/sql-server/sql-server-downloads

SQL Server Management Studio

https://docs.microsoft.com/en-us/sql/ssms/download-sql-server-management-studio-ssms?view=sql-server-ver15

1.2 Supplied Files

The following listed files are supplied, these can be downloaded via GitHub at the below link.

https://github.com/IocaneDevApps/report-analyst-practical

File Type	Name
Solution File	Iocane Report Analysis Practical.sln
Visual Studio Project Folder ***This is a SSRS Report Project***	SSRS Practical
Project File	SSRS Practical.rptproj
SSRS Report	Test1.rdl
Visual Studio Project Folder ***This is a .NET Core Console App***	Test2
Visual Basic Source Code	Test2.vb

2 Instructions

After downloading and installing the required software, the Northwind database will need to be installed to the local SQL Instance.

2.1 Install Northwind Database

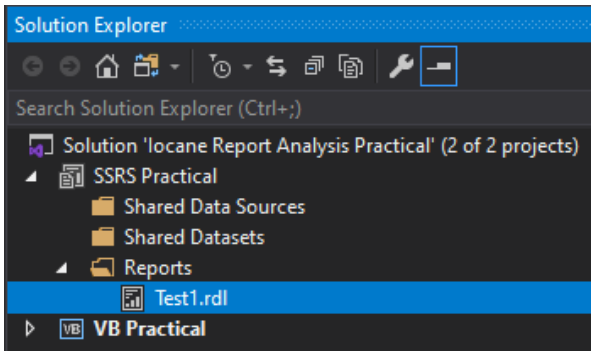
Open SSMS (SQL Server Management Studio), connect to the local SQL instance on your machine, open a new query. Within the query copy the code from the script instnwnd.sql and run it.

https://github.com/Microsoft/sql-server-samples/tree/master/samples/databases/northwind-pubs

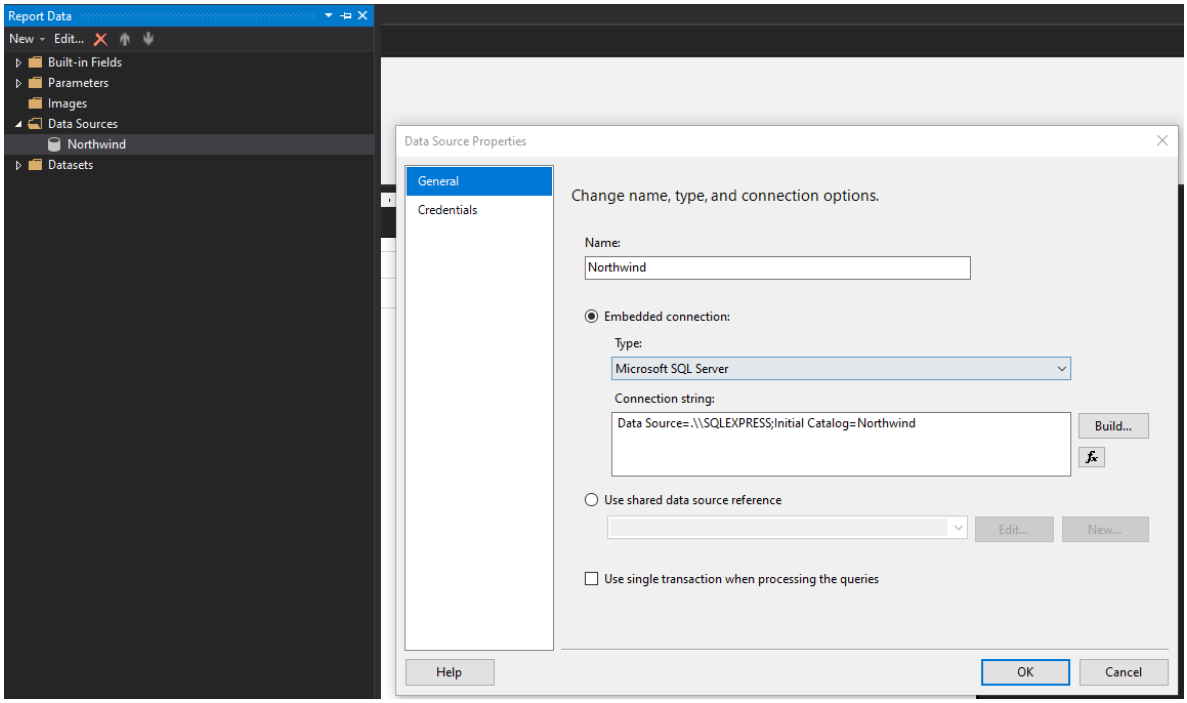
2.2 SSRS Practical

The SSRS (SQL Server Reporting Services) portion of the test will use the Northwind database. Ensure the server name is correct. If the default SQL Express instance is not used it will need to be updated.

Open the solution file in Visual Studio. Open the SSRS Project, and the Test1.rdl file.



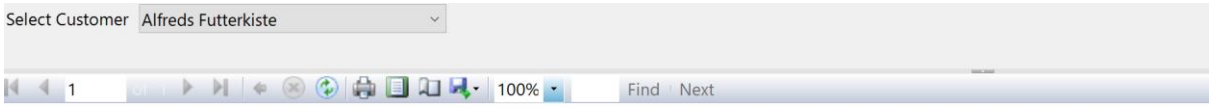
Ensure SQL database server name and instance is correct in the Northwind Data Source.



2.2.1 Add Total Column

The Test1.rdl file has a Dataset and table already created. Add a 'Total' column to the table. Total is the cost of each product in the order including the discount. This can be done either by altering the dataset query to calculate the total, by adding a Calculated Field to the dataset, or by using an Expression within the report.

Example

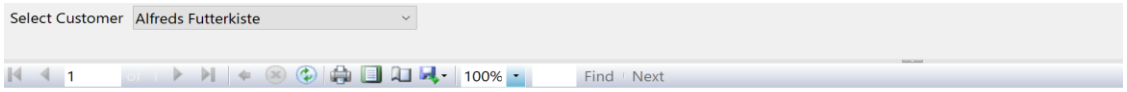


Order ID	Order Date	Product Name	Unit Price	Quantity	Discount	Total
10643	25/08/1997	Rössle Sauerkraut	$45.60	15	0.25	$513.00
	25/08/1997	Chartreuse verte	$18.00	21	0.25	$283.50
	25/08/1997	Spegesild	$12.00	2	0.25	$18.00
	03/10/1997	Vegie-spread	$43.90	20	0.00	$878.00
	13/10/1997	Aniseed Syrup	$10.00	6	0.00	$60.00
	13/10/1997	Lakkalikööri	$18.00	15	0.00	$270.00
	15/01/1998	Raclette Courdavault	$55.00	15	0.00	$825.00
	15/01/1998	Original Frankfurter grüne Soße	$13.00	2	0.20	$20.80
	16/03/1998	Grandma's Boysenberry Spread	$25.00	16	0.05	$380.00
	16/03/1998	Rössle Sauerkraut	$45.60	2	0.00	$91.20
	09/04/1998	Escargots de Bourgogne	$13.25	40	0.05	$503.50
	09/04/1998	Flotemysost	$21.50	20	0.00	$430.00

2.2.2 Add Row Group

Create a new Row Group and an 'Order Total' that sums the 'Total' values for each Order.

Example

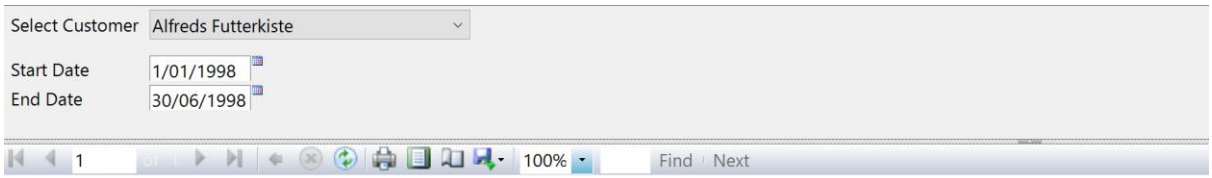


Order ID	Order Date	Product Name	Unit Price	Quantity	Discount	Total
10643	25/08/1997	Rössle Sauerkraut	$45.60	15	0.25	$513.00
	25/08/1997	Chartreuse verte	$18.00	21	0.25	$283.50
	25/08/1997	Spegesild	$12.00	2	0.25	$18.00
					Order Total	**$814.50**
10692	03/10/1997	Vegie-spread	$43.90	20	0.00	$878.00
					Order Total	**$878.00**
10702	13/10/1997	Aniseed Syrup	$10.00	6	0.00	$60.00
	13/10/1997	Lakkalikööri	$18.00	15	0.00	$270.00
					Order Total	**$330.00**
10835	15/01/1998	Raclette Courdavault	$55.00	15	0.00	$825.00
	15/01/1998	Original Frankfurter grüne Soße	$13.00	2	0.20	$20.80
					Order Total	**$845.80**
10952	16/03/1998	Grandma's Boysenberry Spread	$25.00	16	0.05	$380.00
	16/03/1998	Rössle Sauerkraut	$45.60	2	0.00	$91.20
					Order Total	**$471.20**
11011	09/04/1998	Escargots de Bourgogne	$13.25	40	0.05	$503.50
	09/04/1998	Flotemysost	$21.50	20	0.00	$430.00
					Order Total	**$933.50**

2.2.3 Add Date Parameters

Add two new parameters to filter the order. Orders should appear that are between the Start Date and the End Date.

Example

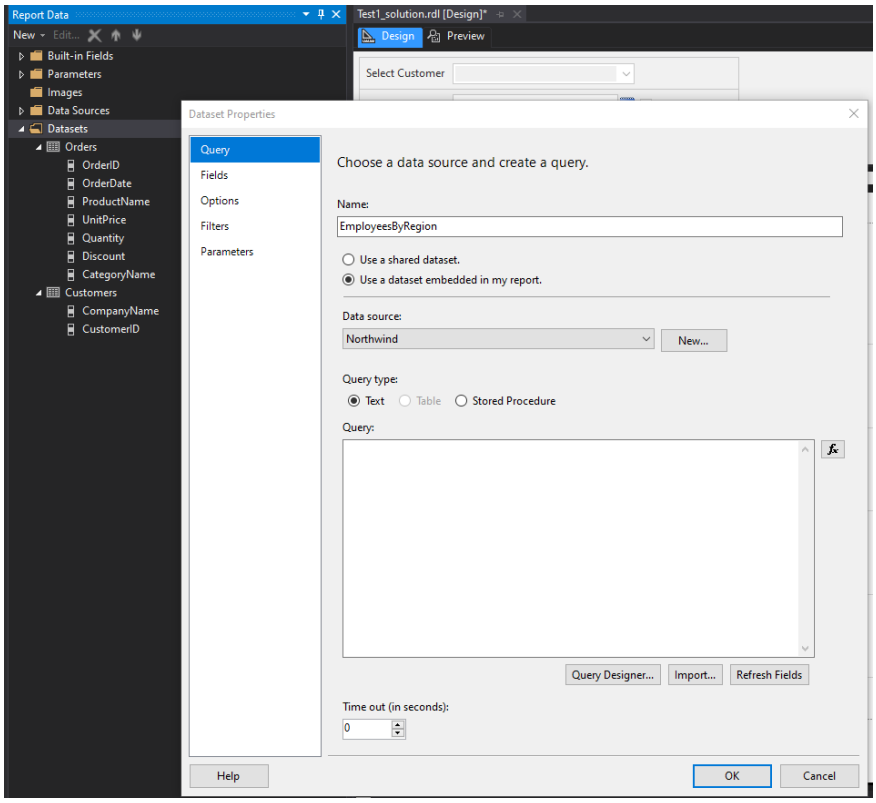


Order ID	Order Date	Product Name	Unit Price	Quantity	Discount	Total
10835	15/01/1998	Raclette Courdavault	$55.00	15	0.00	$825.00
	15/01/1998	Original Frankfurter grüne Soße	$13.00	2	0.20	$20.80
					Order Total	**$845.80**
10952	16/03/1998	Grandma's Boysenberry Spread	$25.00	16	0.05	$380.00
	16/03/1998	Rössle Sauerkraut	$45.60	2	0.00	$91.20
					Order Total	**$471.20**
11011	09/04/1998	Escargots de Bourgogne	$13.25	40	0.05	$503.50
	09/04/1998	Flotemysost	$21.50	20	0.00	$430.00
					Order Total	**$933.50**
Grand Total						**$2250.50**

2.2.4 Create Dataset and Table

Create a new Dataset to find the number of Territories in each Region, as well as the number of unique employees that work in each region.

Use an embedded Dataset as shown below.



Example

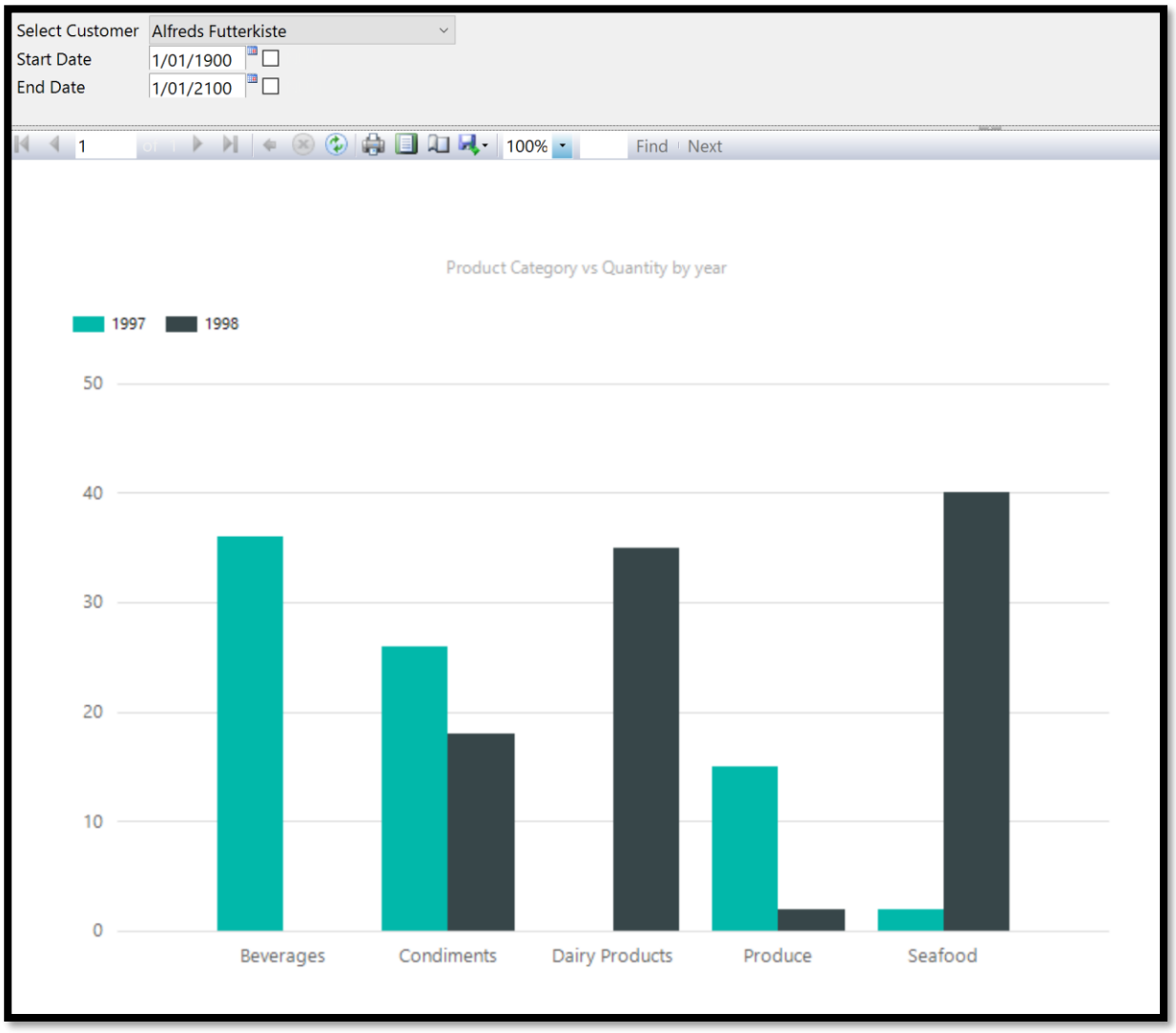
Region ID	Region Description	count territories	count employee
1	Eastern	19	4
2	Western	15	2
3	Northern	11	2
4	Southern	4	1

2.2.5 Create Column Chart

Create a column chart showing the total quantity of products ordered by category and then group by the year of the Order Date.

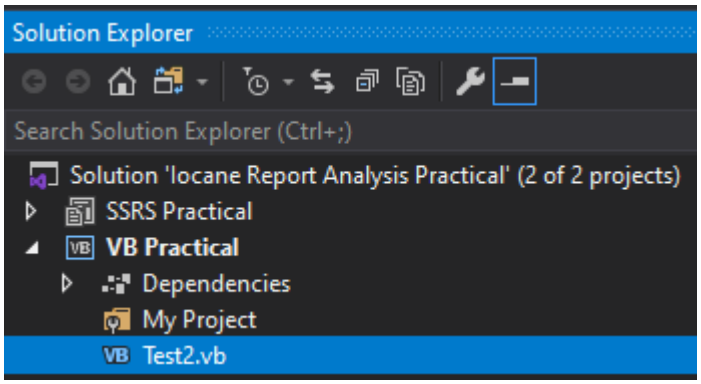
To get the category data you can either modify the existing 'Orders' Dataset or create a new one.

Example

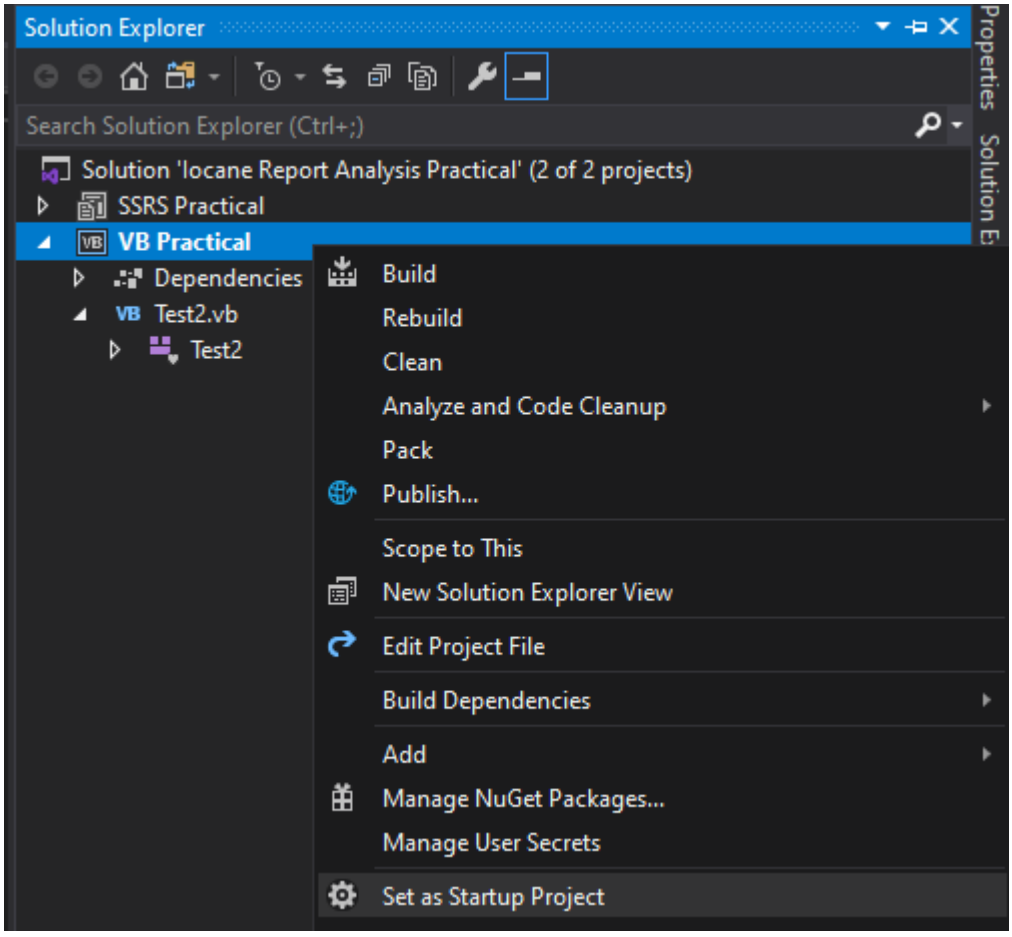


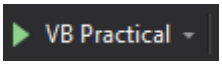
2.3 VB Practical

The Visual Basic practical uses a Console App project. Open the VB Source file Test2.vb



Set the project as the Startup Project by right-clicking the project and selecting 'Set as Startup Project'



This allows the app to be tested by clicking the 

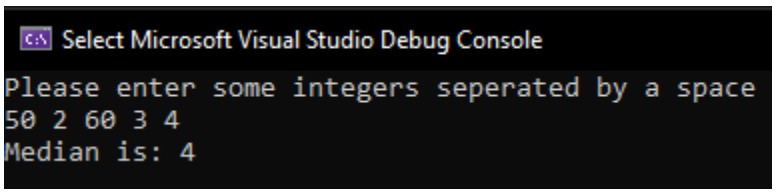
button.

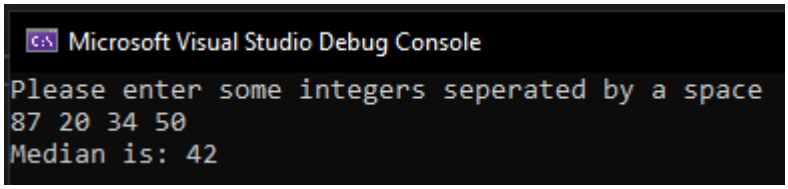
2.3.1 Find Median

Given any number of integers as input, find the median value.

There is skeleton code in the Test2.vb file that will read input from the user and then print out the value of 'result'. Write an algorithm that will take the user's input and output the median value.

Example





3 Completion

3.1 Provide Files to Iocane

Upon completion, please email all the following files in a single zipped folder to DevApps@iocane.com.au.