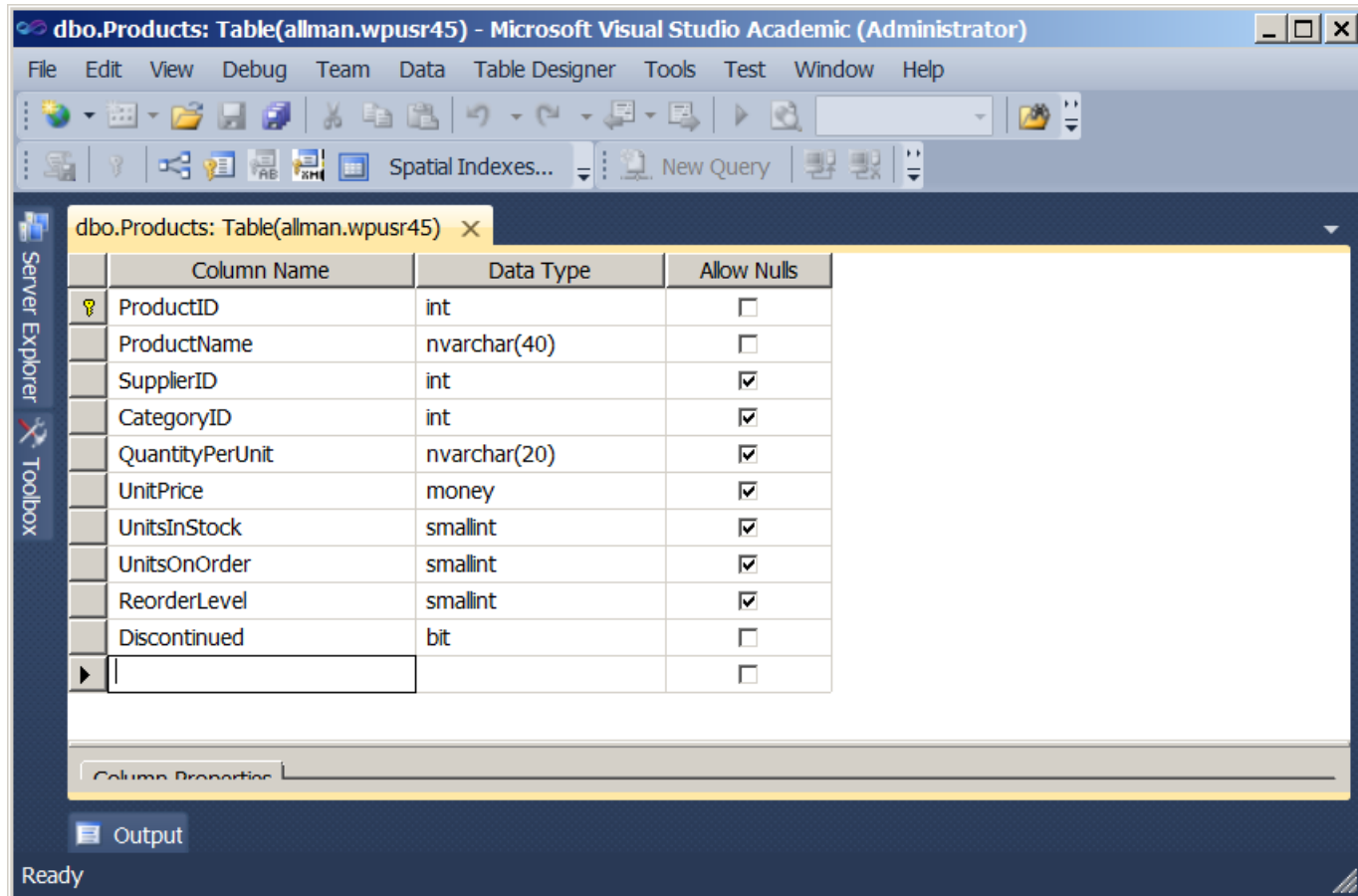




Project 7: Entity Framework

Products Table

All products sold by Northwind Traders are in the Products table.

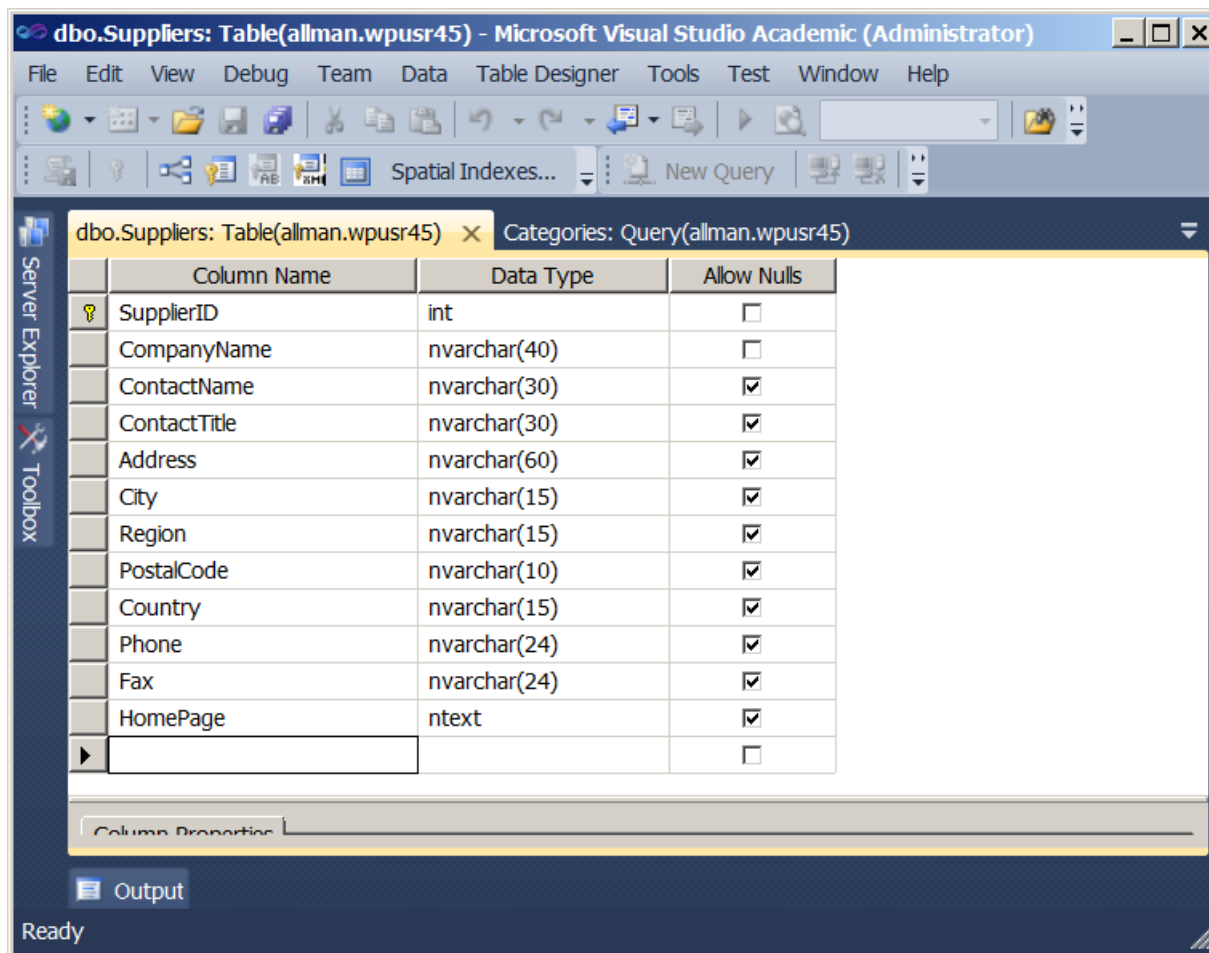


The screenshot shows the Microsoft Visual Studio Academic (Administrator) interface. The title bar reads "dbo.Products: Table(allman.wpusr45) - Microsoft Visual Studio Academic (Administrator)". The menu bar includes File, Edit, View, Debug, Team, Data, Table Designer, Tools, Test, Window, and Help. The toolbar contains various icons for file operations, database actions, and development tools. The main window displays the "Table Designer" for the "dbo.Products" table. The table structure is shown in a grid with columns: Column Name, Data Type, and Allow Nulls. The table has 11 columns: ProductID (int, not null), ProductName (nvarchar(40), not null), SupplierID (int, null), CategoryID (int, null), QuantityPerUnit (nvarchar(20), null), UnitPrice (money, null), UnitsInStock (smallint, null), UnitsOnOrder (smallint, null), ReorderLevel (smallint, null), Discontinued (bit, null), and an empty column (smallint, null). The status bar at the bottom indicates "Ready".

	Column Name	Data Type	Allow Nulls
?	ProductID	int	<input type="checkbox"/>
	ProductName	nvarchar(40)	<input type="checkbox"/>
	SupplierID	int	<input checked="" type="checkbox"/>
	CategoryID	int	<input checked="" type="checkbox"/>
	QuantityPerUnit	nvarchar(20)	<input checked="" type="checkbox"/>
	UnitPrice	money	<input checked="" type="checkbox"/>
	UnitsInStock	smallint	<input checked="" type="checkbox"/>
	UnitsOnOrder	smallint	<input checked="" type="checkbox"/>
	ReorderLevel	smallint	<input checked="" type="checkbox"/>
	Discontinued	bit	<input type="checkbox"/>
			<input type="checkbox"/>

Suppliers

Each product has a single supplier in the Suppliers table, identified by SupplierID.



The screenshot displays the Microsoft Visual Studio Academic (Administrator) interface. The title bar reads "dbo.Suppliers: Table(allman.wpusr45) - Microsoft Visual Studio Academic (Administrator)". The menu bar includes File, Edit, View, Debug, Team, Data, Table Designer, Tools, Test, Window, and Help. The toolbar contains various icons for file operations, editing, and database management. The main window shows the "dbo.Suppliers: Table(allman.wpusr45)" table structure. The table has the following columns:

Column Name	Data Type	Allow Nulls
SupplierID	int	<input type="checkbox"/>
CompanyName	nvarchar(40)	<input type="checkbox"/>
ContactName	nvarchar(30)	<input checked="" type="checkbox"/>
ContactTitle	nvarchar(30)	<input checked="" type="checkbox"/>
Address	nvarchar(60)	<input checked="" type="checkbox"/>
City	nvarchar(15)	<input checked="" type="checkbox"/>
Region	nvarchar(15)	<input checked="" type="checkbox"/>
PostalCode	nvarchar(10)	<input checked="" type="checkbox"/>
Country	nvarchar(15)	<input checked="" type="checkbox"/>
Phone	nvarchar(24)	<input checked="" type="checkbox"/>
Fax	nvarchar(24)	<input checked="" type="checkbox"/>
HomePage	ntext	<input checked="" type="checkbox"/>
		<input type="checkbox"/>

The bottom of the window shows the "Output" pane and the status bar indicating "Ready".

Suppliers

Suppliers: Query(allman.wpusr45) - Microsoft Visual Studio Academic (Administrator)

File Edit View Debug Team Data Query Designer Tools Test Window Help

prev_customer

Change Type SQL New Query Database:

Suppliers: Query(allman.wpusr45) x dbo.Suppliers: Table(allman.wpusr45) Categories: Query(allman.wpusr45)

SupplierID	CompanyName	ContactName	ContactTitle	Address	City
1	Exotic Liquids	Charlotte Cooper	Purchasing Manager	49 Gilbert St.	London
2	New Orleans Cajun Delights	Shelley Burke	Order Administrator	P.O. Box 78934	New Orleans
3	Grandma Kelly's Homestead	Regina Murphy	Sales Representative	707 Oxford Rd.	Ann Arbor
4	Tokyo Traders	Yoshi Nagase	Marketing Manager	9-8 Sekimai Musashi...	Tokyo
5	Cooperativa de Quesos 'Las Cabras'	Antonio del Valle S...	Export Administrator	Calle del Rosal 4	Oviedo
6	Mayumi's	Mayumi Ohno	Marketing Representative	92 Setsuko Chuo-ku	Osaka
7	Pavlova, Ltd.	Ian Devling	Marketing Manager	74 Rose St. Moonie ...	Melbourne
8	Specialty Biscuits, Ltd.	Peter Wilson	Sales Representative	29 King's Way	Manchester
9	PB Knäckebröd AB	Lars Peterson	Sales Agent	Kaloadagatan 13	Göteborg
10	Refrescos Americanas LTDA	Carlos Diaz	Marketing Manager	Av. das Americanas ...	Sao Paulo
11	Helj Süßwaren GmbH & Co. KG	Petra Winkler	Sales Manager	Tiergartenstraße 5	Berlin

1 of 29 | Cell is Read Only.

Output

Ready

Orders

- We have already seen that each Order has a collection of Order Details.
- Each Order Detail includes a ProductID.

Order Details: Query(allman.wpusr45) - Microsoft Visual Studio Academic (Administrator)

File Edit View Debug Team Data Query Designer Tools Test Window Help

Order Details: Query(allman.wpusr45) x dbo.Order Details: Table(allman.wpusr45)

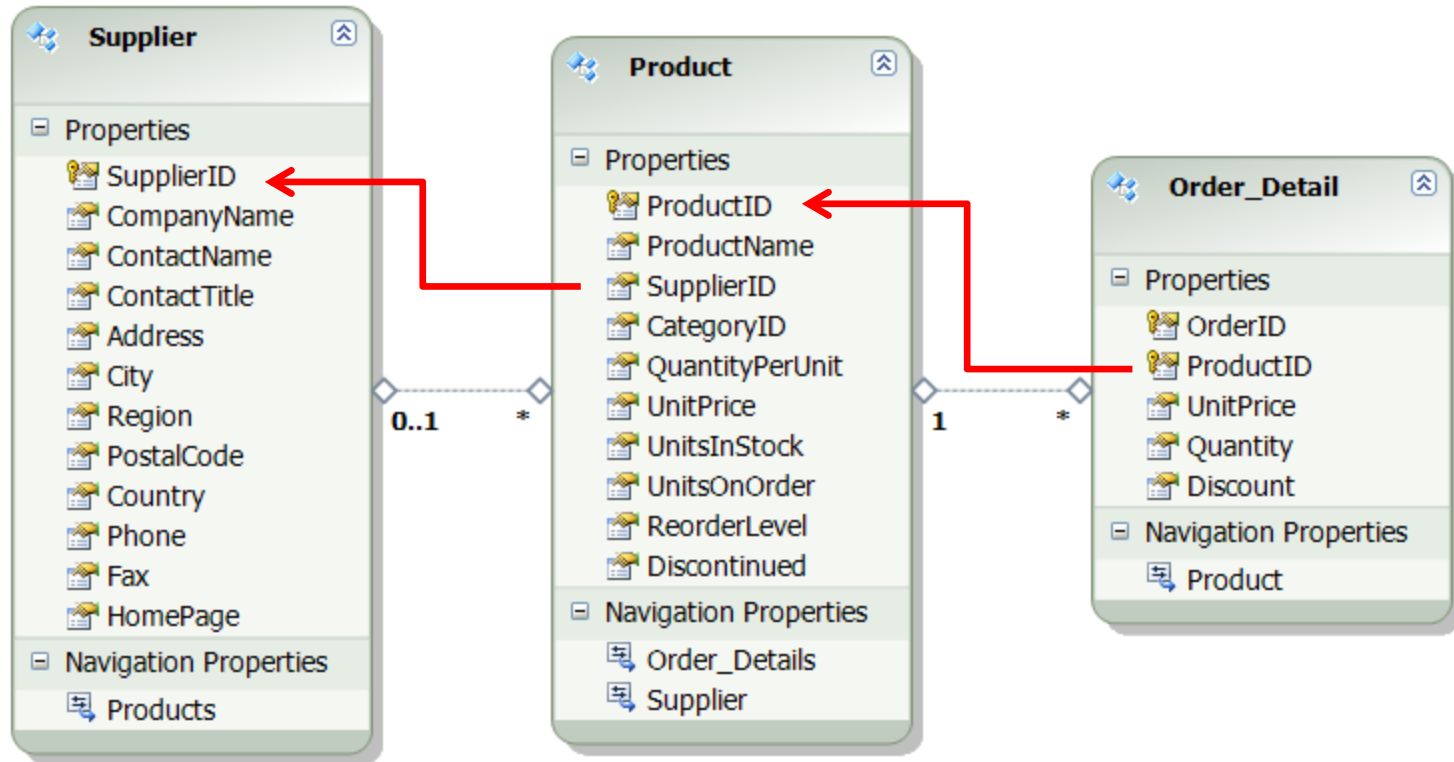
OrderID	ProductID	UnitPrice	Quantity	Discount
10248	11	14.0000	12	0
10248	42	9.8000	10	0
10248	72	34.8000	5	0
10249	14	18.6000	9	0
10249	51	42.4000	40	0
10250	41	7.7000	10	0
10250	51	42.4000	35	0.15
10250	65	16.8000	15	0.15
10251	22	16.8000	6	0.05
10251	57	15.6000	15	0.05

1 of 2155

Output

Ready

Associations





Assignment

- Write a web application that permits users to determine the total value of all order items for a specified supplier.



Requirements

- User the Entity Framework to define classes.
- Use Linq to perform database queries.
- Query parameters are not applicable to Linq.
- Do not use stored procedures.



User Interface

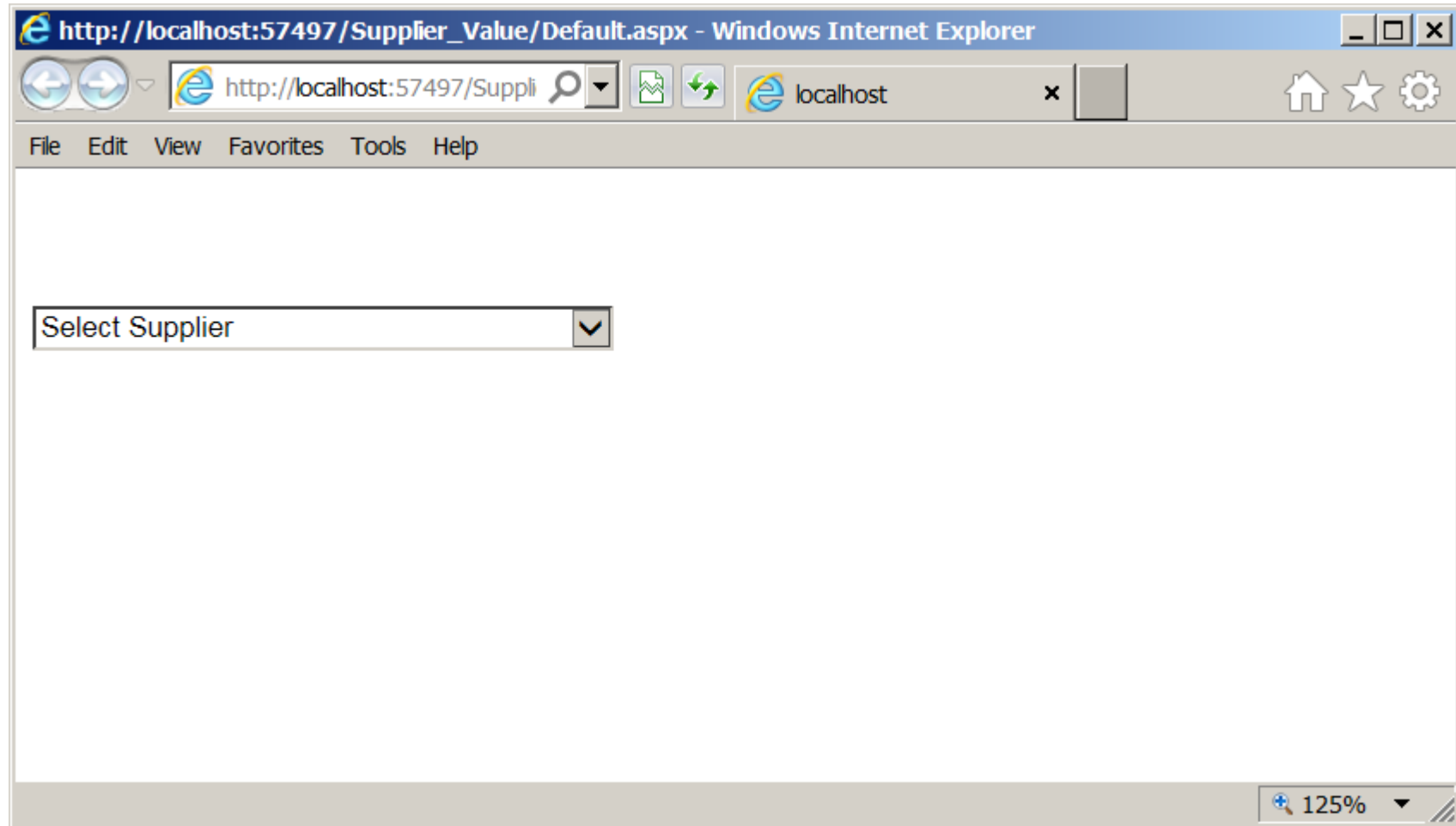
- Provide a dropdown list with all suppliers' company names.
- When the user selects an item from the list, display the number of order items for products supplied by that supplier, and their total value.
 - $(\text{UnitPrice} * \text{Quantity}) * (1.00 - \text{Discount})$
 - Refer to Project 6 assignment for details.



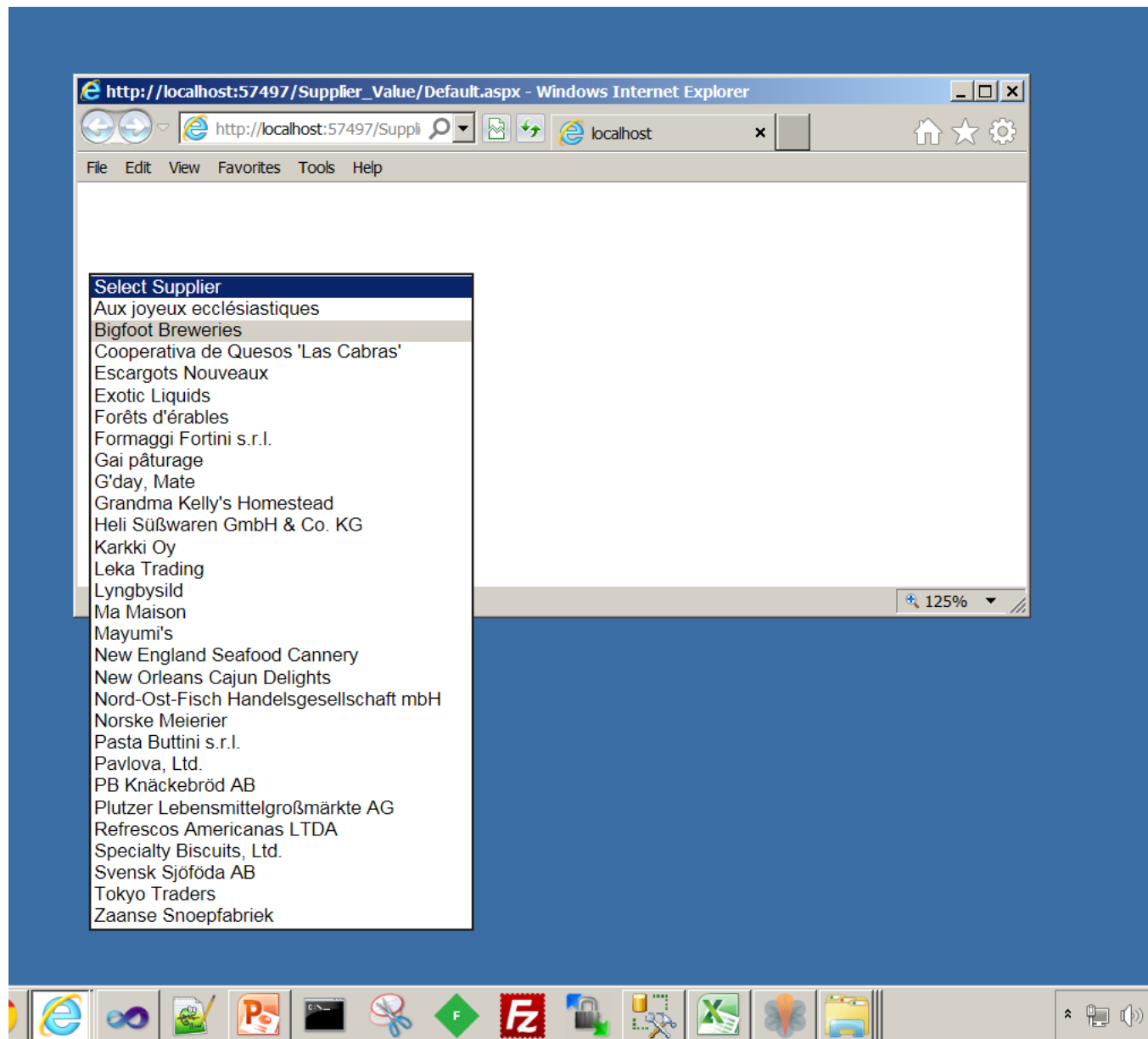
User Interface

- Format the total value as currency, with two decimal places.
 - Dollars and cents.
 - `total_value.ToString("C2")`

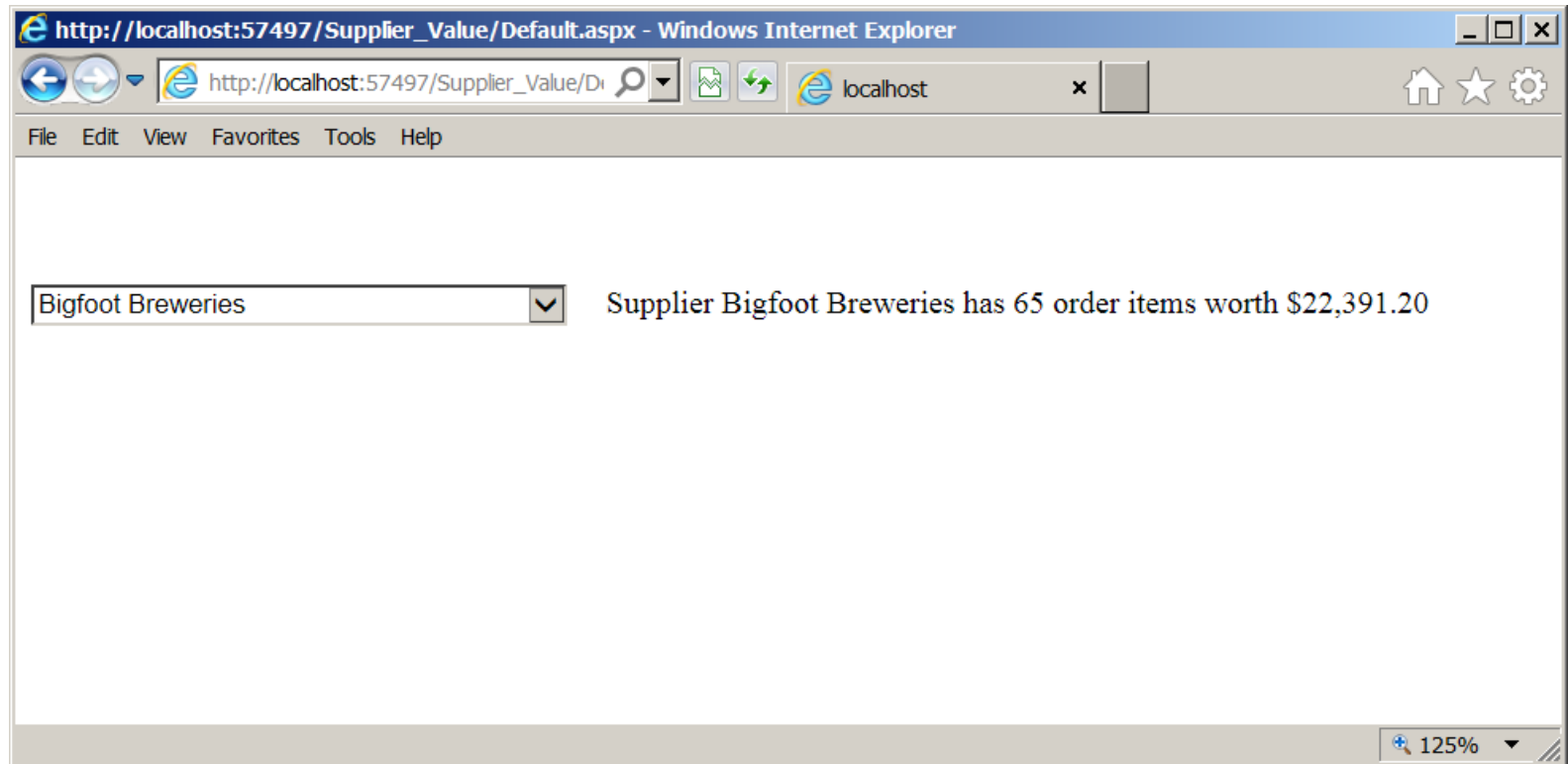
Example



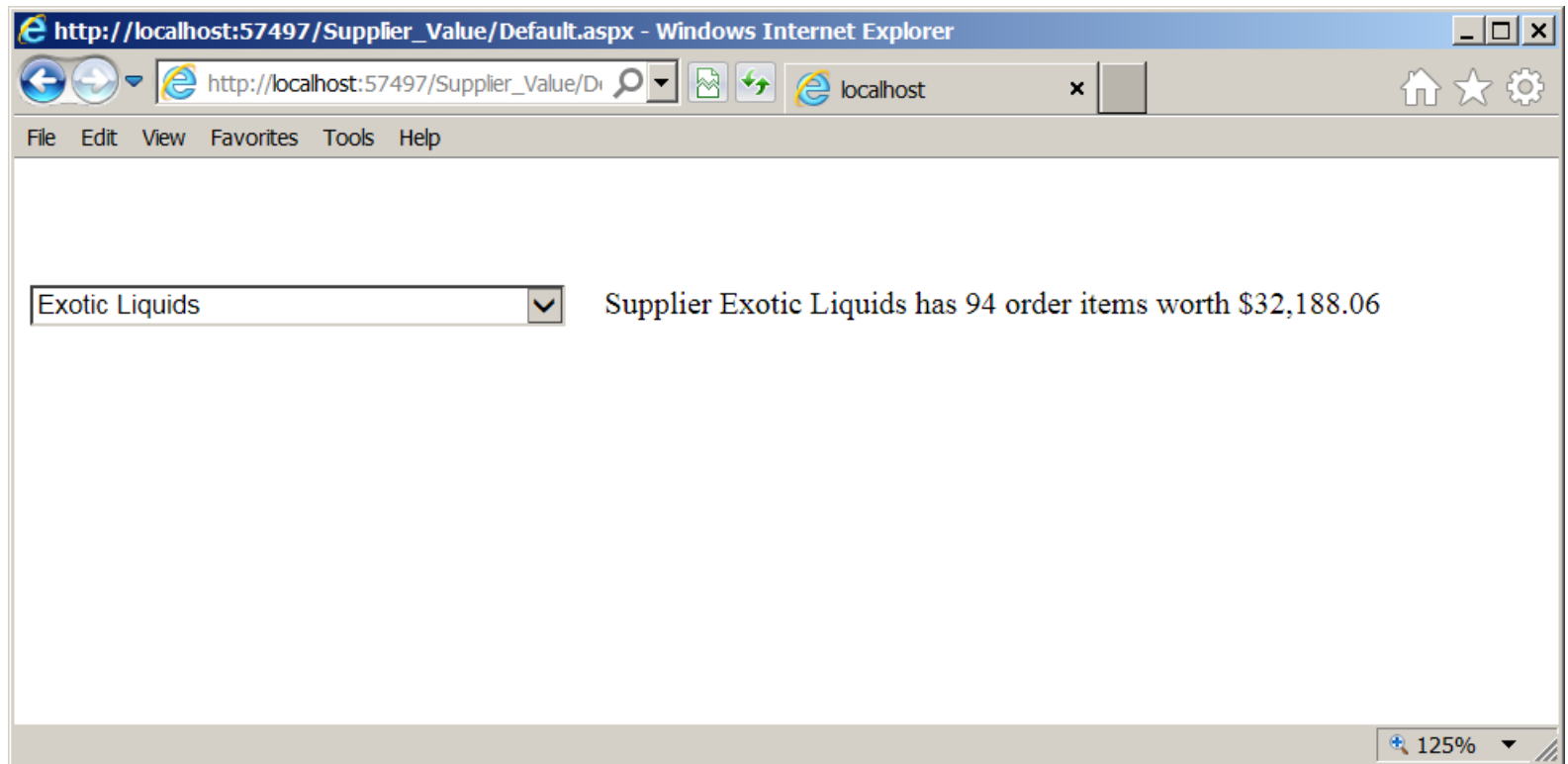
User selects a supplier



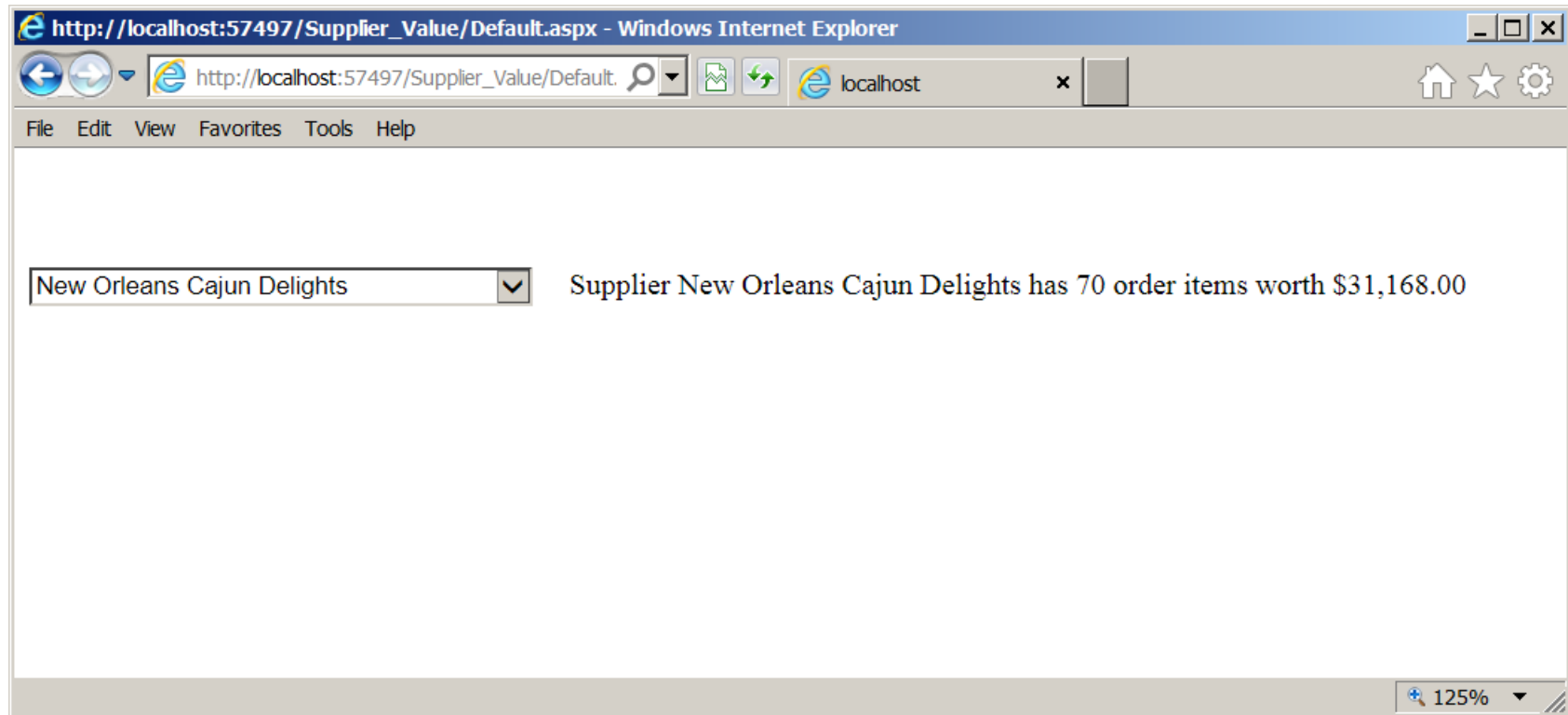
App displays query result



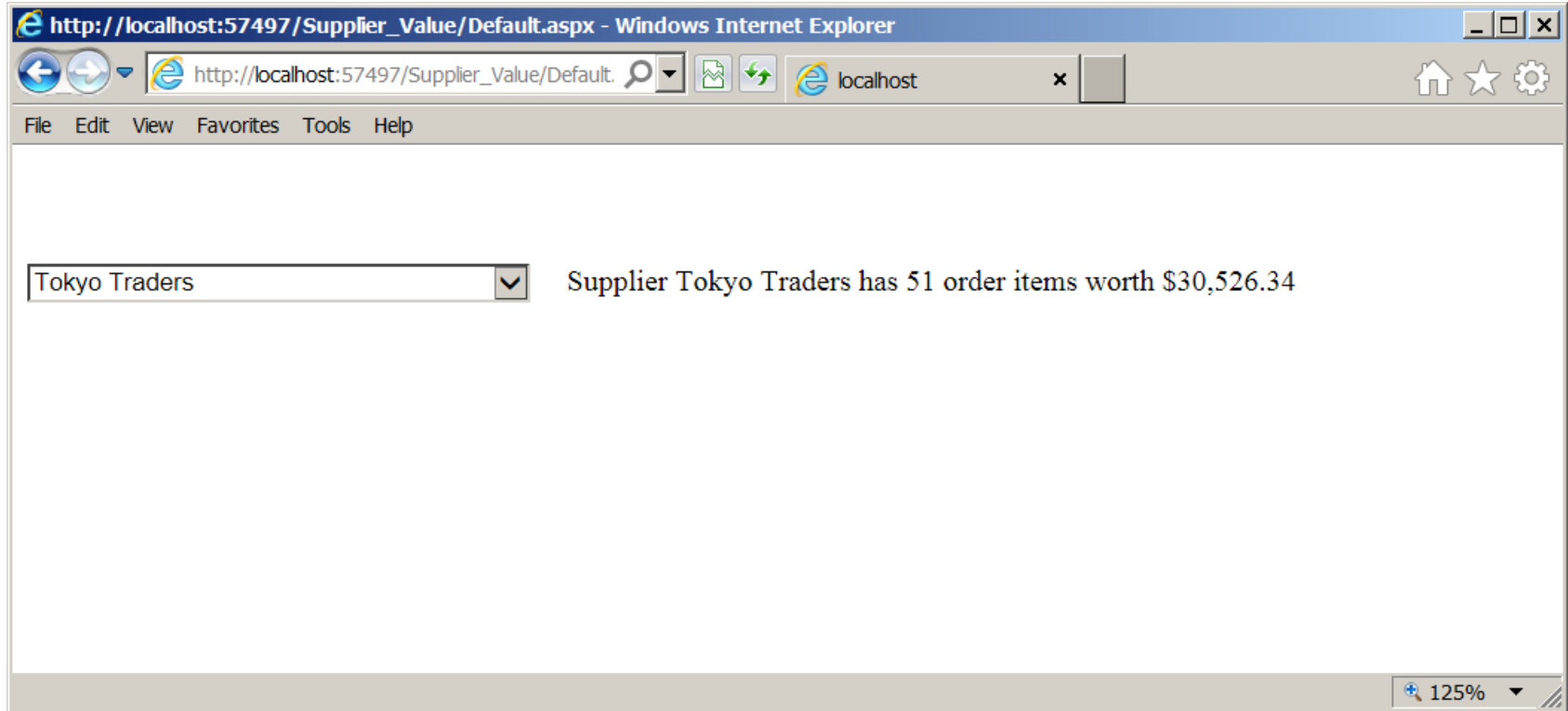
More Examples



More Examples



More Examples





Implementation Tips

- Build on what you have seen and done previously.
- Work in tiny steps.
 - Start with a stub.
 - Get each small step working before adding more code.
- Compare your final results to examples in this presentation.



Deployment

- We cannot deploy this project to scorpius, because scorpius does not have Version 4 of the Dot Net Framework.



Ground Rules

- You may work with one or two other students.
 - OK to work alone if you prefer.
- If you do collaborate
 - All group members are expected to contribute.
 - Only one group member should submit the website files in Canvas.
 - Include a comment with the names of all group members.
 - Other group members submit just a comment with the names of all group members.



Submission

- Submit your web site folder via Canvas Assignments.
- Zip your web site folder using the Windows “Send to Compressed Folder” command.
- Submit the .zip file
 - Do not submit any other form of compressed file.



Ground Rules

- Do not share your work with other students (outside your group.)
 - Before or after submitting the project.
 - OK to *discuss* the project.
 - OK to look at others' web sites with a browser.
- Do not copy any other student's code.
 - Or even look at it.
- Do not let anyone copy or examine your code.



Ground Rules

Except for code posted on the class web site

- Do not copy code from the Internet
 - or any other source.
- Write your own code.



Due Date

- Project is due by 11:59 PM, Sunday, Nov. 16.
 - Project submitted after the deadline will be subject to a penalty of 10 points per hour.