# Exercise – Defining Views

### Objectives

The primary objective of this lab is to get familiar with understanding and using views.

### Overview

In this exercise you will use the QAStore database and write SQL code that will let you create and use SQL VIEWS.

### Estimated duration

The estimated duration for this lab is 30 minutes.

## Step by Step

1. Start SQL Server Management studio from the Windows Start button.
2. Enter .\SQLEXPRESS as the Server name in the Connect to Server dialog box.
3. Choose QAStore from the drop down list of available databases located on the standard toolbar to ensure that it is selected as the current database.
4. Click the New Query button on the standard toolbar.

## Exercise 1

Be the 'developer' and CREATE a VIEW named London.

- It needs to show rows and columns from the 'company' table.
- It should show company number, name and county columns.
- It should only include rows in the London area (County = 'London').
- When used for data entry it should NOT ALLOW non-London companies to be added.

```
CREATE VIEW ????
AS
SELECT ???
FROM ???
WHERE ????
??? ??? ???
```

## Exercise 2

Now be the 'user' and SELECT everything (all rows and all columns) from the newly created VIEW.

If you do it right then the results should look like the following (3 rows, with 3 columns each):

```
company_no   name                   county
-----------  ---------------------  ---------------
1000         Happy Heaters PLC      London
2000         Icicle Igloos PLC      London
3000         Judo Jeans PLC         London
```

## Exercise 3

Copy/paste the code from exercise 1 and alter the VIEW to add the 'post_code' column so that it appears before 'county'.

## Exercise 4

Now SELECT from the VIEW again as you did in exercise 2, but this time:

Only include 'name' and 'post_code' columns.

Include a 'WHERE' clause that only SELECTs rows from the VIEW if the post_code starts with an 'N'.

Order the rows by 'post_code'.

```
SELECT ?????
FROM   London
WHERE  ???? ?? ????
ORDER BY ???
```

The results should look like the following:

```
name                  post_code
-------------------- ----------
Icicle Igloos PLC     N1 4LH
Judo Jeans PLC        N9 2FG
```

## Exercise 5

Try to run this INSERT statement for a company based in 'Essex'. It shouldn't be allowed!

If it is successful, you have forgotten 3 key words from your CREATE/ALTER syntax.

```
INSERT INTO london
VALUES (5000, 'ABC CO','RF45 7GH', 'ESSEX')
```

You should get the following error message:

"The attempted INSERT or UPDATE failed because the target VIEW either specifies WITH CHECK OPTION or spans a VIEW that specifies WITH CHECK OPTION and one or more rows resulting from the operation did not qualify under the CHECK OPTION constraint. The statement has been terminated."

The INSERT fails because the data violates the With Check Option condition.

If your INSERT did run successfully use this DELETE statement to remove the row.

```
DELETE FROM company WHERE company_no = 5000
```