# Leveraging Your SQL - Update Using a Join

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Most update queries are pretty straightforward. You already know the primary key or some other criteria for a single table and and the *WHERE* clause is just "WHERE pk_id = 4" or "WHERE area_code = 312". There are times, however, when it might be useful to update a table based on critria from 2 or more tables. For a purely hypothetical example, let's say I have a shipping amount in an "ordShip" table, a base amount in an "orders" table and I have a tax amount (as a decimal) in a tax table based on the state. Let's also assume I have the state in the "orders" table. I want to update the "grandTotal" amount in the "orders" table. The formula would be:

```
base Amount + (base Amount * tax rate) + shipping.
```

How would I go about it?

## The Usual suspect

Here's what I see more often than not (forgive me if I do not use CFQUERYPARAM. I'm saving space on the page).

```
<!--- get the order --->
<cfquery name="getOrd" datasource="#dsn#">
   SELECT    baseAmt, State
   FROM   Orders
   WHERE   ord_id = #val(ord_id)#
</cfquery>
<!--- get the tax rate --->
<cfquery name="getTax" datasource="#dsn#">
   SELECT    taxRate
   FROM   stateTaxRate
   WHERE   State = '#getOrd.state#'
</cfquery>
<!--- get the shipping cost --->
<cfquery name="getShip" datasource="#dsn#">
   SELECT    shipAmt
   FROM   ordShip
   WHERE   ord_id = #val(ord_id)#
</cfquery>
<!--- add them together --->
<Cfset gTotal = val(getOrd.baseAmt) + (val(getOrd.baseamt) * val(getTax.taxRate)) +
val(getShip.shipAmt)>
<!--- update orders --->
<cfquery name="updateOrd" datasource="#dsn#">
   UPDATE orders
   SET      grandTotal = #gTotal#
   WHERE   ord_id = #val(ord_id)#
</cfquery>
```

It's not pretty but it *is* effective. It gets the job done and you can see what is happening.

## Leverage your SQL

What you may not know is that you can update 1 or more tables and use a JOIN in the process. Here's an example.

```
<cfquery name="getOrd" datasource="#dsn#">
   UPDATE   O
   SET    O.grandTotal = O.baseAmt + (O.baseAmt * T.taxRate) + S.shipAmt
   FROM   orders O JOIN ordShip S
          ON O.ord_id = S.ord_id
   JOIN   stateTaxRate T ON O.state = T.state
   WHERE   O.ord_id = #val(ord_id)#
</cfquery>
```

You could also do the same thing with sub-selects, but I like this syntax better. I think it's cleaner and easier to grasp. I hate digging through levels of sub-selects to figure out a query.

There is 1 gotcha. I have tried and failed to make this work without table aliases (to use the actual table qualifiers - orders.grandTotal instead of O.grandtotal). I'm not sure what the hang up is. There probably *IS* a way to do it (perhaps with quoted identifiers). I have just not sorted it out. Since I always use aliases in a JOIN query anyway it is not a limiting factor for me. I would also add that you should use extreme caution. If your JOIN is not a straight "1 to 1" you should make sure you know exactly what it is doing. Remember you are updating tables based on that join. You could have unexpected results.