

# Get Caché covered

**If you want to know about object-oriented databases then you'll need to get to the bottom of using Caché**

BY KAY EW BANK

You might think you're familiar with databases, but object databases such as Caché are a different kettle of fish. You can read a fuller description of Caché in this month's database round-up, but briefly, as an object database it lets you handle complex data in an object-oriented way.

Object databases started life as a way of storing designs from CAD and CAE packages, but have moved on and gained support in some industry sectors such as healthcare. In addition to handling complex data, object databases also have the advantage of looking more familiar than SQL to any programmer using object-oriented languages.

In an object database, rather than defining a data table you have a class, and rather than columns or fields in the tables you have properties. The data that would be placed in records is added as objects, and you define methods to hold the business rules.

## Getting Started

Once you've installed Caché, you'll find its icon, from where you access the component applications, in the system tray. Among the options, you'll see a guide to Getting Started with Caché. This has good tutorials if you're new to Caché, including a step-by-step to

building an object-based Web application. If you've used Caché before, there are also guides for the Caché Studio, and links to technical articles and newsgroups.

Caché Studio is the basic environment for creating applications in Caché. It uses a typical layout for a development environment – projects listed to the left, colour-coded class code in the centre, a class inspector and output window around the edges. There are wizards to help create new classes, properties, methods, relationships, and Web forms.

We'll create a reasonably simple database and Web data entry and search form. The first step is to define the data formats. In Caché, the equivalent to a database record is an object, made up of elements called properties. The definition of an object is called a class. All very standard as far as 'normal' programming goes, but not that usual for databases.

## Defining Classes

The next step is to set up a class to hold products from the VSJ tuck shop. From the File menu, you want New, Class definitions. This launches the New Class Wizard. You need to assign the class to a package (used to group related classes) and we'll define a new package – TuckShop. Give the class a name of Product – this is the equivalent of creating the table in a database. We want to store the class in the database, so choose Persistent from the class types. Ignore the other options.

Next, we want to add some properties to the class, so choose Add New Property from the Class menu.

When used with a data object, this is the Caché equivalent of adding columns to a table definition. Add properties for ProductName, Price, and Quantity. All three are single values of types string, currency, and integer respectively, and all are required. Make ProductName indexed, too, and finish off by compiling the class from the Build menu. Once compiled, your Product data is available from SQL. Caché also creates dozens of methods for the class so it's immediately usable.

## Display the data

Having created the classes, you need some way to display the data. You can use Caché's terminal window and write programs in ObjectScript, Caché's own programming language, to display the information. Alternatively, you might want to use a more standard development environment. Caché comes with wizards that plug in to Visual Basic and Dreamweaver to generate forms for use against Caché data, and it also has Visual Basic, Java and C++ interfaces.

However, there's an increasing expectation that you'll use a Web browser to view the information, so we'll just create a simple HTML page showing the data. While Caché works well with Dreamweaver, you can also use Caché's Web Form Wizard to create your pages.

In Caché Studio, there's a folder in your project labelled CSP Files. Add a new item to this, and call it TuckShopView. Now, from the Insert menu, choose Form Wizard. This creates a Web form for a Caché class. When prompted, choose the TuckShop class, and give suitable names to the fields. You can alter the order, specify display properties, but all you really need to do is to tick the fields you'd like to display. Once finished, compile the project.

You can now add some data to your Caché database. Open your Web browser, and type the URL <http://localhost/csp/user/tuckshopview.csp>. You should see your form appear, and can enter data and search for existing values. It really is that easy and from here you can go on to more sophisticated experiments with Caché.

To get a free, fully functional, no time-limit copy of Caché, use the reply card on the front cover of this issue, or visit [www.intersystems.co.uk](http://www.intersystems.co.uk).

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