

PowerBuilder Q&A



Q Does PowerBuilder support OCXs?

A Yes, in Version 5.0, OCXs can be used via the OLE 2.0 control or in the DataWindow painter.

Q Can you modify a DataWindow object's attributes at runtime?

A Yes, a DataWindow object can be modified using one of two methods: direct access or the `Modify()` function. For example, to change the background color of a DataWindow you could write this:

```
dw_customer.Modify("DataWindow.color='255'")  
dw_customer.Object.DataWindow.Color = '255'
```

Q Can PowerBuilder create executable code?

A One of the options when creating an executable in the Project Painter is whether you want to create machine code or the old p-code used in prior versions of PowerBuilder. The machine code executables can be created only in a 32-bit environment. In either case, you must still distribute some of PowerBuilder's runtime DLLs with your executable.

Q Does PowerBuilder support OLE?

A OLE 2.0 is supported in the Window painter as a container control and via PowerScript statements. Now in Version 5.0, OLE 2.0 is supported in the DataWindow painter via a new presentation style, a blob column, or as an OLE container.

Q On what platforms does PowerBuilder run?

A PowerBuilder is available for Windows 3.x, Windows 95, Windows NT, the Macintosh, and UNIX Motif (some versions are still in beta form).

Q What object-oriented capabilities does PowerBuilder support?

A PowerBuilder gives you the ability to create visual and nonvisual objects and supports inheritance, polymorphism, function overloading, and encapsulation.

Q How can I print a source listing?

A There is no main program or source listing as there is with languages such as COBOL, but you can print individual scripts. You can also print object scripts through the Library painter. Another method is to export your objects from the Library painter.

Q Can you give any pointers on GUI design?

A There are a number of different books on GUI design. GUI standards are also part intuition, and your knowledge of them will increase as you work with more Windows applications.

Q What are DDE, OLE, and DLLs?

A DDE (dynamic data exchange) and OLE (object linking and embedding) are advanced techniques that are used for interprocess communications. DLLs (dynamic

link libraries) are libraries containing functions (executable code) that Windows applications can access at runtime to perform certain activities.

Q What is a global variable and what is a global external function?

A A global variable is a variable that can be accessed throughout the application in which it has been defined. A global external function is a call to a DLL, which is defined so that it can be used for the whole application.

Q How does PowerBuilder use the library search path?

A PowerBuilder looks for the objects specified, starting at the beginning of the search path (the first PBL listed), and continuing until it finds a match. You should place commonly used objects near the top of the list to increase performance.

Q Can the library list be changed at runtime?

A Yes, by using the function `SetLibraryList()` you can modify the order in which PowerBuilder will look for the runtime libraries.

Q What is the purpose of the application object?

A The application object is the entry point into the application and stores high-level information about the application. It defines the context for the rest of the application.

Q Where do I go to make an icon file?

A Use the Watcom Image Editor or a third-party tool.

Q What does MDI mean, and what is MicroHelp?

A MDI stands for multiple-document interface. It is an application style with which you can open multiple windows (sheets) in a frame window and move among the sheets. MicroHelp is the status bar at the bottom of the MDI frame that displays additional text information. MicroHelp is typically specified in the Menu painter.

Q Do you use a child window inside MDI frames?

A Typically MDI sheets are of type main because child windows cannot have menus specified for them.

Q On a window's property sheet, what do the different color options mean for a window's background color (such as `AppWorkSpace`)?

A The first three options refer to the color scheme set up in the Windows Control Panel (`w` = window background, `wt` = window text, `a` = application workspace). The next four are for custom colors (as well as `t` for transparent, but only in the DataWindow painter).

Q What's a PBU? Does PowerBuilder use twips?

A PBU stands for PowerBuilder unit and is equal to fractions of the system font: $1/32$ for horizontal and $1/64$ for vertical. This makes it easier to change from one resolution to another. No, PowerBuilder does not use twips.

Q When does the Window icon show, and when does the Application icon show?

A The Application icon is used in the Program Manager or Start Menu, and it is the default icon for a window when it is minimized if a window does not have an icon assigned to it.

Q When I space controls, they all end up on top of one another. How can I prevent this or fix it after it happens?

A Version 5.0 has an Undo menu item that goes multiple levels deep and one level deep. If you make additional changes after this initial mistake in 4.0, however, you must drag the controls off each other or exit without saving. Be careful.

Q If I have more than one button defined as the default, which one is activated when I press Enter?

A The button that is defined last—but all will have the heavy border. This is also true with the Cancel attribute. Because you may have the wrong button specified as the cancel or default, you should only specify one button as the default and one button as the cancel.

Q What is the difference between window and MDI client color on the Window Style dialog box?

A The MDI client color is for MDI frames, and window is for everything else.

Q How do you refer to a sheet that was created using a local reusable reference value?

A There are several functions for an MDI frame window that can return a window reference: `GetActiveSheet()`, `GetFirstSheet()`, and `GetNextSheet()`.

Q How does the return value work for the `MessageBox()` function?

A The `MessageBox()` function returns the number of the button that was clicked. For example, if you used the `YesNo!` enumerated data type, a return code of 1 would indicate that the user clicked Yes and a 2 would indicate No.

Q When and why should I use an `IF...THEN` statement versus a `CASE` statement?

A If you need to evaluate multiple conditions for the same variable or expression, the `CASE` statement is easier to read and maintain.

Q How do I know the difference between a variable with a dash and an arithmetic operation?

A This could be a problem. Therefore, you can specify `DashesInIdentifiers = 0` in your `PB.INI` file to prevent you from declaring variables with dashes in them. Get used to using underscores or internal capitals. Setting this switch can also burn you in the Menu painter because `PB` uses dashes in the menu names for separator lines.

Q Which is the best data type to use for currency or scientific calculations?

A For currency, use `Decimal` (it can be slow). For scientific calculations, use `Real` or `Double`.

Q What if I want to access a variable from multiple windows?

A If the windows are instances of the same class, use a shared variable; otherwise, use a global.

Q What do ++, +=, --, -=, and so on mean? How do I use them?

A `a++` is the same as `a=a+1`, `a+=5` is the same as `a=a+5`, and so on. They are just shortcuts to writing out the full expressions.

Q Do you need to specify the control or object name when assigning values to the corresponding attributes?

A It is a good practice. But if you are in an event for that object or control, you do not need the name, or you can specify the pronoun `THIS`. It is poor programming practice to omit the object or pronoun.

Q How do I exit a script when I have a compile error?

A Comment out the code that is in error and you can exit.

Q `Close(Parent)` doesn't work in the `Clicked` script for my menu option `Close`. Why?

A The pronoun `Parent` in reference to a window is incorrect from a menu object. Use the pronoun `ParentWindow`.

Q If my ancestor has a script for a particular event, how do I get the ancestor script to run after the descendant instead of before it?

A Choose `Override Ancestor Script` from the `Compile` menu in the `Script painter`. At the end of your code, use the `call` command and the name of the ancestor object, the control, and the event you want to execute.

Q Is the EXE truly compiled code?

A Depending on the executables compile options in the `Project painter`, the EXE could be true machine code or p-code (pseudocode, which is a compiled version of the object).

Q What is a PBD?

A A PowerBuilder dynamic library, which contains compiled PowerBuilder objects to be accessed by a non-machine-code executable at runtime. With a machine code executable, you can create DLLs for your objects.

Q What does the Windows bootstrap routine do?

A It is true executable code that gets a non-machine-code application up and running and points toward the correct runtime DLLs.

Q In the Database painter can you capture the DDL after you have altered the table structure?

A Yes, by choosing the option `Export Syntax To Log`. This will send the DDL for the selected table (only one table at a time).

Q How do I attach to existing tables (such as Paradox tables)?

A Choose Configure ODBC from the File menu and select the driver for your particular database. You will then be prompted for additional information about your database.

Q What does the Synchronize PB Attributes menu option do?

A It synchronizes an existing database with the repository. (For example, if you deleted a table, this would remove the associated information from the repository.)

Q What's a view?

A A temporary table whose contents are taken or derived from one or more tables. Views are typically used to control data.

Q What can I modify on an existing table? How do I change a column so that it accepts NULLS?

A You can add new columns (appended), the column width, keys, and extended column attributes. You cannot change the NULL declaration after a column has been created. You would have to delete the column and re-add it (remember that it has to be appended to the table). This can also be achieved using the Data Pipeline painter.

Q How do I make a column a spin control style?

A Choose an edit mask and select the Spin Control option in the dialog box.

Q What is the third state on a check box used for?

A The third state is often used if you have a situation that can be true, false, or not applicable or unknown (the third state).

Q How do you use the match on the validation rules for a column?

A A match validation rule validates whether the data being placed in the column matches a specified text pattern (such as the first letter starting with an uppercase letter from A to Z). An example is `Match(1s_warehouse, "[A-Z]")`.

Q Why do you need a foreign key?

A You need a foreign key to establish dependencies between tables and ensure data consistency and integrity. The foreign key typically is also indexed to increase performance and access time.

Q Do I have to specify a primary key? What if my table has no key?

A In PowerBuilder you do have to specify a primary key when you try to create a new table. If you created the table outside of PowerBuilder with no key, you can view it in PowerBuilder, but you cannot edit the data.

Q I changed the edit style for a column, but my DataWindow doesn't have the new edit style. What did I do wrong?

A Changes made to the Database painter are not reflected automatically in the DataWindow painter. To make those changes, in the DataWindow painter, right-click on the column and choose the appropriate style (such as `edit, dddw`). In the name

field, click the arrow on `ddb`, and the edit style name you created in the Database painter should appear in the list.

Q Why would I use a code table?

A A code table enables you to minimize the amount of data stored in the database by having a display value (for example, `Minnesota`) and a data value, which is stored in the database (in this case, `MN`). Code tables can also be used for validation.

Q Can I reuse SQL statements in the DBA Notepad? Can I run DDLs?

A Yes, you can save the SQL statements in the DBA notepad to a file and reuse it. DDLs can be run in the DBA notepad.

Q Why doesn't my New DataWindow dialog box show stored procedures?

A The dialog box shows stored procedures only if your DBMS supports them.

Q Can I use SQL from other editors, and not just from the DBA Notepad? Will it support nonstandard SQL commands?

A Yes and yes.

Q Can I join multiple tables (more than two) for the DataWindow source?

A You can perform inner joins and outer joins.

Q How is specifying a sort in my SQL statement different from specifying a sort in the DataWindow's design mode?

A The sort is included in the SQL statement, which means that the sort is performed on the server. For those specified in design mode, the sort is performed on the client.

Q I have two DataWindows on a window with almost identical data. Do I have to retrieve the data twice?

A You can use the function `ShareData()` if both DataWindows need the same data. Remember that both DataWindows' Selection Lists must be identical.

Q How do I create a DataWindow that reads like a newspaper?

A From the Print Specifications dialog box, you can choose the number of newspaper columns across a page.

Q Can I change the format of a DataWindow after I have created it?

A The only way to change the format is by manually changing each component. For some presentation styles, the only way to create them is to start with a new DataWindow (such as graph to a crosstab).

Q Can I create a DataWindow that is used for reporting and data entry based on security? or do I have to create two DataWindows?

A You can use the same DataWindow and change the tab order so that the users cannot tab to any field or make the columns display only (both via `Modify` or direct access in 5.0). The preferred method is to change the `Protect` attribute on and off, which leaves the tab order intact.

Q When I try to use the Space Objects menu on my columns, the columns end up with more space between them than I wanted. Why?

A The spacing is based on the distance between the first and second columns selected. Potentially, you could be selecting the controls in a different order than you intended (by using the lasso method).

Q When I zoom, why can't I modify my DataWindow?

A In the zoom mode, the DataWindow is preview only so you cannot modify it.

Q I can't tab to or update fields that I just added to my existing DataWindow. Why?

A You need to change the tab order and specify new update characteristics.

Q Is there a standard font to use for DataWindows?

A Arial is the default PowerBuilder font. Sans Serif is a very popular alternative.

Q How do I code a menu item (such as Save) on an MDI application when Save means something different to each sheet?

A There are two ways to accomplish this. You can trigger a user event on each window and if the event does not exist, the application does not crash (loosely bound). The other method is to call a window function that is based at a high level of inheritance. The menu click code will then be the same but the function's script on each sheet will be different (this is what's called polymorphism).

Q How do I execute window functions and user events when I use multiple instances of the same window?

A If you have lost the reference to the window, you can use pronouns and several PowerBuilder functions to determine which sheet is active.

Q My sheets open under the toolbar so that they are partially hidden. I only have my MDI frame with the company logo on it, and then I open the first sheet. I am using the toolbar associated with the menu object. Why am I having this problem?

A This occurs because by placing the bitmap on your MDI frame window you have made a custom MDI frame. With a custom MDI frame, you are responsible for resizing the client area (`mdi_1`). In PowerBuilder you use a standard frame. You must account for the size of the toolbar when you open your sheets with a custom MDI frame.

Q How should I prevent a menu bar from being associated with the wrong sheet?

A There are two common methods: Either use the frame menu throughout the application or give every sheet its own menu and hold onto the `MenuId` attribute of the window.

Q What information is put in `SQLReturnData`?

A `SQLReturnData`, an attribute of a transaction object, is used to place additional information provided by some of the different DBMSs. ODBC returns the name of the database engine and Informix returns the serial number of the row after an `INSERT` statement executes.

Q What is `SQLNRows`?

A `SQLNRows` returns the number of rows affected by the most recent SQL operation. (For example, if an update affected 20 rows, `SQLNRows` would be 20.)

Q What does `AutoCommit` do?

A `AutoCommit` is specific to your DBMS (whether it supports it or not) and causes PowerBuilder to commit the open transaction after each `INSERT`, `UPDATE`, or `DELETE` (if its value is set to `FALSE`).

Q How do I know whether I have connected?

A After specifying `Connect`, check that the transaction object attribute `SQLCode` is equal to `0`, which indicates a successful connection.

Q Do I need to destroy user-defined transaction objects? What if I don't?

A Yes, to implement proper coding techniques, you should always destroy any object you create. If you do not, PowerBuilder will try to destroy your objects for you.

Q Why should I always include the `Using` clause?

A It ensures that if you are using multiple transaction objects, you do not try to perform a SQL operation with the wrong transaction object. If you fall into the habit of not specifying the `Using` clause, you might leave it off by accident when it is required to execute SQL with your user-defined transaction object. Also, it is good coding practice.

Q Why should I specify a default value on `ProfileString()`?

A The default is used when the INI file is not found or the section or keyword is not found in the INI file.

Q Where does `ProfileString()` look for the INI file?

A The first place that the INI file looks is the current directory. Then it looks in the Windows directory, the Windows system directory, and then the DOS path.

Q Where should I define my transaction objects? and with what scope?

A User-defined transaction objects will most likely be defined as local variables because the secondary access is typically only needed for a short time. If you need access to multiple database throughout your application, try a global definition so that the transaction object can be accessed throughout the application.

Q In what event of what object should I code the initialization and connect?

A If no additional information is needed from the user (ID, password, and so on), the application object `Open` event is a good place for this. If there is a logon window, the `Clicked` event of an OK button is a good place to perform these actions.

Q Do I reference the return status attributes of `SQLCA` after I retrieve data from the `DataWindow`?

A No. Checking the return status attributes of `SQLCA` is only applicable when you use embedded SQL. Use the argument `sqldbcCode` in the `DBError` event to extract this information.

Q What are cursors and stored procedures?

A A cursor is a pointer to a row in a result set from a SQL `select` that enables you to manipulate one row at a time. A stored procedure is compiled SQL that resides on the server (which enables you to perform multiple SQL operations).

Q Are referenced variables in embedded SQL the same as retrieval arguments?

A No. Retrieval arguments are in `DataWindows`, whereas the referenced variables are just in embedded SQL.

Q Can I use `DBCcancel()` with embedded SQL?

A The `DBCcancel()` function is associated with `DataWindows` and does not apply to embedded SQL.

Q What does `SetTrans()` do?

A `SetTrans()` manages the `DataWindow`'s connections to the database for you. The problem is that it does a connect and disconnect each time an update is called, which causes performance degradation. It is highly recommended that you use `SetTransObject()`.

Q What does `Parent` refer to in a menu?

A `Parent` refers to a menu bar item when specified in the underlying menu. (For example, for the Exit menu option, File is its parent.)

Q How do you make a menu pop up?

A Create a menu as you normally would. Then, in whichever event you want to open the pop-up menu, use the `menuItem.PopMenu()` function, which receives the X and Y location at which you want the menu to appear. If the menu has not already been instantiated through association with an open window, you must code the menu creation.

Q How do I disable a menu option via code?

A Reference the fully qualified name of the menu item and specify `menuItem.Enabled = False`. (The Object Browser is a nice shortcut for retrieving the full menu name.)

Q Are there standards for shortcut and accelerator keys?

A There are some common key combinations for both. Several GUI books and other Windows applications show some standards. Remember not to have duplicates for shortcut keys or accelerator keys (within the same drop-down menu). Shortcut keys should not be *Alt+letter*, because this standard is for accelerator keys. There are also specific shortcut and accelerator keys for the non-Windows platforms (for example, Command+Q on the Macintosh to quit an application).

Q When I add additional separator lines, I get an error message. Is this okay?

A When you create more than one separator line, PowerBuilder tries to give it the same name as the first separator line and just prompts you to give it a different default name, which it supplies for you. Simply click OK.

Q How can I reference a control on a particular window without specifying the window name? Can I use `ParentWindow`?

A You cannot use `ParentWindow` because there is no way for the pronoun referencing the window to know what controls are on it. This is because `ParentWindow` is cast to type `window` and not the actual window class.

Q Why do I need to use pronouns?

A They are good generic references to objects/controls that are useful and necessary with inheritance and window instances. Pronouns make your code more reusable.

Q I created an application and a menu with a toolbar, but the toolbar never shows up. Why?

A The toolbar only shows when the application is an MDI application and appears on the MDI frame.

Q I specified a menu option as checked, but it doesn't uncheck when I click it. Why?

A To have this functionality, you need to code this in the `Clicked` event of the menu item you have specified as checked. Determine the value of the `Checked` property (`TRUE` or `FALSE`) and then toggle the `Checked` property (`this.Checked = Not this.Checked`).

Q The changes in my ancestor window are not reflected in the descendant. Why?

A First, try regenerating the descendant in the Library painter. If this does not work, the descendant might have overridden the link by changing the attribute. Try the Reset Attributes menu option in the Window painter for the descendant.

Q How do I regenerate a window?

A In the Library painter, select the objects you want to regenerate and select Regenerate from the Entry menu.

Q Can I inherit only windows?

A No. You can also inherit menus and user objects.

Q Can you open a normal window and pass it a parameter?

A Yes. Just like `OpenSheetWithParm()`, there is an `OpenWithParm()`. The retrieval is the same in both cases.

Q Will `SQLNROWS` tell me how many rows are in the `DataWindow`?

A No. `SQLNROWS` is for embedded SQL only. To know how many rows are in the `DataWindow`, use `RowCount()` or check the return value from the `Retrieve()` function.

Q When I dynamically change the `DataObject` attribute, I get an error when I retrieve. Why?

A When you change `DataObject`, you must remember to use the `SetTransObject()` function for the `DataWindow` control.

Q Where should I code the retrieval and `SetTransObject()`?

A `SetTransObject()` is usually coded in the constructor of the `DataWindow` control. If you change the `DataObject` at runtime, you must issue `SetTransObject()` again. For the retrieve, it can be in the `Open` event of the window, the `Constructor` event of the `DataWindow` control, or in a window function or user event if no arguments need to be retrieved from the user.

Q Based on user-specified criteria, I change the `DataWindow` the user sees in a particular window. When I create the executable, it doesn't work. Why?

A If you dynamically change the `DataObject` property of the `DataWindow` control, PowerBuilder does not have the capability to know what `DataWindow` object you are assigning. Therefore, you need to specify the `DataWindow` object in a PBR (PowerBuilder Resource) file when you compile the EXE.

Q Why does canceling `Retrieve As Needed` (for a `DataWindow`) take a long time to return control to the application? Is it finishing the retrieve first?

A No, it does not finish the retrieve, but it does take some time to process the query on the server.

Q Why use `Retrieve As Needed`?

A Use it if you are returning a lot of data and want the user to be able to see some of the data right away.

Q If I use `SetRowFocusIndicator()`, do I need to code the `SelectRow()` code?

A No. The `SetRowFocusIndicator()` function will indicate the current row for you.

Q What's the difference between `GetItemString()` and `GetText()`?

A `GetItemString()` retrieves a value from one of the runtime buffers, and `GetText()` retrieves the value from the edit control.

Q If I filter the data on the client side, what happens to the data? To get it back, do I need to code a retrieve again?

A The data is moved from the Primary runtime buffer to the Filter buffer. A retrieve does not need to be run because you can reset the filter so that all rows meet the criteria, thereby moving data from the Filter buffer back to the Primary buffer.

Q Can I pass a structure or a control?

A Yes. Use either `OpenWithParm()` or `OpenSheetWithParm()` and retrieve from the `PowerObjectParm` attribute of the message object.

Q Does the `Clicked` event always occur when you double-click the `DataWindow`?

A Yes. You must be careful not to have too much code in the `Clicked` event. Otherwise, the code will still be executing when the second click occurs, and PowerBuilder will not recognize it.

Q Which scope takes precedence for variables named the same?

A The order of precedence is local, shared, global, and then instance.

Q What's the best way to open instances of windows?

A It depends on whether you need to reference the windows: Use an array if you do need to reference the specific windows, or a reusable reference variable if you don't. The second method is preferred because arrays require more code to manage, and if you can maintain generic references (using pronouns and some special functions), you can do what you need to do without knowing the window name.

Q How do you reference an instance window (sheet) and its events, control, and so on, when you use the reusable reference variable?

A With MDI applications, you can use a function called `GetActiveSheet()`, which returns the sheet that is active. You can ensure that there is an active sheet by using the `IsValid()` function. You can then trigger events or do what you need to do.

Q Are some variable scopes more resource intensive than others?

A Global variables will always be defined whether they are used or not, so they are the most resource intensive and should be avoided when possible. Shared and instance variables are only created when the object in which they are defined is created. Again, these might not be used, but the possibility is greater. Finally, local variables are usually only declared when needed.

Q Can structures have all four scope types? What objects can have structures?

A Yes, a structure instance can be declared of any type scope. Structure classes can be defined on an object level or a global level. Windows, user objects, menus, and applications can have structures.

Q Can you create a structure array?

A Yes, you can create an array of a structure class.

Q Does `OpenWithParm()` work for structures, too?

A Yes, you can pass a structure from one window to another. After passing the structure, you must retrieve the structure out of `PowerObjectParm` in the `Message` object.

Q How do you use `CloseWithReturn()`?

A This is only effective with Response windows. From some script, open your Response window to halt the calling script. After doing your processing, close the Response window using `CloseWithReturn()`. This returns control back to the script that opened the response window and the code following the `open()` statement will then be executed. You would then retrieve the value from the `Message` object as you do with `OpenWithParm()` and `OpenSheetWithParm()`.

Q Why should I use a function or a subroutine?

A Both are good ways to reuse code and logically group PowerScript code together.

Q Can I have the same function name in both a descendant and an ancestor window? Which gets called first? Can they have different data types?

A Yes, you can have the same function name in both the descendant and ancestor. If both functions accept the same arguments, the function in the descendant will be executed (this is called *overriding a function*). If the functions accept different arguments, the function with the matching argument definition will be executed (either the ancestor or the descendant). This is a concept called *function overloading*.

Q What if I don't code a return statement?

A If you declare a return value, PowerBuilder will not let you exit the Function painter without coding a return. With nested logic (for example, an `If...Then` statement), as long as one return is coded, PowerBuilder compiles the function. If the function executes a portion of code with no return statement, though, and tries to execute the function, you will receive a runtime error.

Q Is there any easy way to access passed arguments in my function script?

A Yes. At the top of the Script painter, there is a Paste Argument list box. Just click on the argument you want, and it will be pasted after the cursor.

Q What does the `FilteredCount()` function do?

A This function tells you the number of rows that have been filtered out of the `DataWindow` and that are now in the Filter buffer.

Q Is the edit control like Excel's?

A Conceptually, both PowerBuilder's and Excel's edit controls are used to ensure the validity of the information placed in them. PowerBuilder's edit control provides a means for validation before data is placed in the Primary buffer. The big difference is that Excel's edit control is always on the top of the spreadsheet, whereas PowerBuilder's edit control resides over one column/row combination and moves when the user tabs to or clicks somewhere else in the `DataWindow`.

Q Is data in the Filter buffer updated?

A Yes. If you insert or update rows and then filter those rows out, they will still be applied to the database when an update is issued.

Q Can I control all four levels of validation?

A No. PowerBuilder handles the first two levels: Did Anything Change and Data Type Validation. The developer controls column validation and the `ItemChanged` event code.

Q Where is the proper place to code an `AcceptText()`?

A The proper place is in the `LoseFocus` event of the `DataWindow` control, but you must use a flag variable to determine whether the event has been processed. Otherwise, PowerBuilder decides to execute the event twice.

Q Can you move a row from the Delete buffer back to the Primary buffer? How?

A Yes. You can move the row from the Delete buffer to the Primary buffer using `RowsMove()`.

Q Why would I use update over insert/delete for key modification?

A If your table contained foreign keys, you would probably want to update rather than insert/delete because you could set off a cascading delete and remove data that you did not intend to remove. Also, if you are only receiving a portion of the data from a table, all data that was not received will be lost on an `INSERT` statement.

Q Do I always have to specify update characteristics?

A No. If you have only one table for your `DataWindow`, the default update characteristics are used.

Q What do data concurrency and integrity mean?

A Data concurrency is how successfully multiple users can access the database at the same time. Data integrity is the maintenance of consistency and business rules for your data.

Q If I sent 100 inserts and row 50 failed, would they all fail?

A Yes, they would if they were all part of the same transaction.

Q Can I use the transaction object attributes `SQLDBCcode` and `SQLerrText` in the `DBError` event?

A The `DBError` event is associated with `DataWindows`, so the two return status attributes do not apply. In Version 5.0, the event arguments `sqldbcode` and `sqlerrtext` will give the information you need in the `DBError` event.

Q What if I don't use a `COMMIT` or `ROLLBACK`?

A You run the risk of losing changes that you have sent to the database. The `Disconnect` verb performs an implicit commit before the disconnect.

Q Do only `ItemChanged` and `ItemError` have action codes?

A No. Many, but not all, `DataWindow` events (only `DataWindow` events have action codes) have valid action codes. PB online help gives a good list of the action codes. In Version 5.0 these are implemented as return codes for the events.

Q For what can I use the `UpdateStart` and `UpdateEnd` events?

A They have been used to test performance, display a message saying that an update is in process, and then close the message when the update is done.

Q What does a `ROLLBACK` do?

A It cancels all database operations since the last `COMMIT`, `ROLLBACK`, or `CONNECT` if the `AutoCommit` attribute of the transaction object is set to `FALSE`.

Q Why don't I issue a `COMMIT` after every change I make? Wouldn't this be the most secure way of doing things?

A There are times when you want several SQL operations to occur together, and if one fails, all should fail. Also, performing a `COMMIT` every time is an expensive operation in terms of resources and time.

Q On `InsertRow()`, is it normal to put the newly inserted row after the current row or as the last row?

A Both ways are acceptable, but the preferred choice is to place the new row after the current row. The reasoning is that often the user wants to reference other information (rows) to copy information, and if the row is the last row, the user has to keep jumping back and forth. Also, if you retrieved a lot of data, you might have to scroll through a large number of rows to get to the inserted rows, which would affect performance and probably annoy the user.

Q If an update fails (due to a change in the record since it was retrieved), does the `DataWindow` re-retrieve the row for you?

A No. You need to code your application to do this in the `DBError` event. Trap for the update failure code using the `sqldbcode` event argument and then use the `row` argument to locate the first row in error and the `ReSelectRow()` function to re-retrieve that row.

Q Is there a way to bypass the validation rules?

A You can override column validation in the `ItemError` event in combination with the event return value. Also, if you use the `SetItem()` function, it bypasses validation (because you're placing it directly in the buffer).

Q How do I update two `DataWindows` as one logical unit?

A Perform the update, but set the `Reset Flags` option to `FALSE` for the `Update` function. Check the return code of the first update, and then perform the second update the same way (do not reset the flags). If this update is successful, commit the changes and then call the `ResetUpdate()` function, which resets the update flags for all `DataWindows`.

Q Can I view the SQL used for updates created by the DataWindow?

A Yes. In the `SQLPreview` event of the `DataWindow`, use the `sqlsyntax` event argument.

Q Can I save a dynamically created DataWindow object to a PBL?

A Yes. Use the `LibraryImport()` function.

Q When updating multiple tables in a DataWindow, why do I need to turn off the update for the first table if I'm switching the UpdateTable?

A If you don't turn off the update, your update of the second table will fail because all fields specified as updatable will be included in the `WHERE` clause (from the original buffer), even if they don't exist on the table being updated.

Q Can I copy scripts from ISQL and copy them into a query object?

A Yes, just convert to syntax instead of graphics and paste them in.

Q What can I use the Send To Back menu option for?

A You can use this option if you are using a picture on a `DataWindow` and want the report/graph on top of it.

Q Why can't I modify my crosstab report?

A By its nature, a crosstab is not editable because it is composed of calculations.

Q What is an N-Up report? When would I use it?

A An N-Up report is a two- (or more) column report that reads from left to right. One of the few places to use this is with a calendar.

Q What's the easiest way to print a report?

A The easiest method is to use the `DataWindow` function `Print()`.

Q Where should I keep PBDs—locally or on the network?

A If possible, place the PBD on each user's machine. There can be some performance degradation if PBDs reside on the network. You can write an update routine that checks the datetime stamp of the PBD and applies any newer releases to the user's workstation to make sure that the user always has recent copies.

Q How should I separate my PBLs?

A There are two main methods: by subsystem and by object type.

Q What do I need to distribute to my user's workstation?

A You need to distribute your EXE, PBDs or DLLs (if used), INI files (if used), HLP files (if used), and the necessary PowerBuilder DLLs.

Q Can I pass a parameter to an application?

A Yes. You can use the `CommandLine` event argument in the `Open` event of the `Application` object.

Q When should I consider using a dynamic library?

A If your EXE is too large or if you need to share common objects across applications, you should consider using a dynamic library.

Part V

Q How many dynamic libraries can I have? How many PBRs can I have?

A You can have as many dynamic libraries as you like. You can have one PBR per EXE and one per dynamic library.

Q Can I have a PBL with just the Application object and everything else in dynamic libraries?

A Yes. The EXE would just have the Windows bootstrap routine and everything else would be accessed dynamically.

Q What if a BMP is not found at runtime?

A If you dynamically assigned a BMP and did not include a PBR, the container for the BMP will be empty.