How can I make a dialog box right-to-left at runtime?

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A customer had a program that decided at runtime what language to use for its user interface. The customer was having trouble getting the program's dialog boxes to show up with right-to-left layout when necessary.

> We are setting the `WS_ EX_ LAYOUTRTL` extended style in the dialog box's `WM_ INIT-DIALOG` message handler, but what we're seeing is that although the style applies successfully, and the dialog itself renders RTL, its child elements don't.
>
> ✕ emaN a esoohC
> _____
>
> Name:
> John Smith
> OK

The actual screen shot provided by the customer involved Arabic text, but I used English text so you can see which parts are running left-to-right and which parts are right-to-left. Also, because I don't know Arabic.

The title bar is running right-to-left, as desired, but the contents of the dialog are still left-to-right. What's going on?

As I've noted before, the WS_EX_LAYOUTRTL extended style is inherited by child windows (unless blocked by the `WS_ EX_ NOINHERITLAYOUT` extended style). What I didn't call out is that this inheritance occurs at the point the child window is created. The child window takes a snapshot of its parent window's layout; future changes to the parent window's layout have no effect.

The next piece of the puzzle is realizing that the `WM_ INITDIALOG` message is sent after the child windows have been created. I called this out explicitly in an earlier discussion of dialog boxes, but you already know this, because your `WM_ INITDIALOG` message handler calls `GetDlgItem` to obtain handles to dialog child windows in order to initialize and configure them.

So you need to get the `WS_ EX_ LAYOUTRTL` onto the window before child windows are created. One way of doing this is to edit the dialog template and add (or remove) the `WS_ EX_ LAYOUTRTL` extended style from the dwExStyle member of the 32-bit extended header before you call `CreateDialogIndirect` or one of its relatives.

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