4

Creating Transactions

This chapter describes how to create transactions which are packaged as output data records containing Job On and Job Off data and sent to a disk file.

Task 8: Creating the JON_Tran (Job On) Transaction

When the user runs your application at the start of a job, data collected for the Job On transaction includes a constant value ("JOTRAN"), the worker's Badge ID Number, the Part Number, the Order Number, the date and the time.

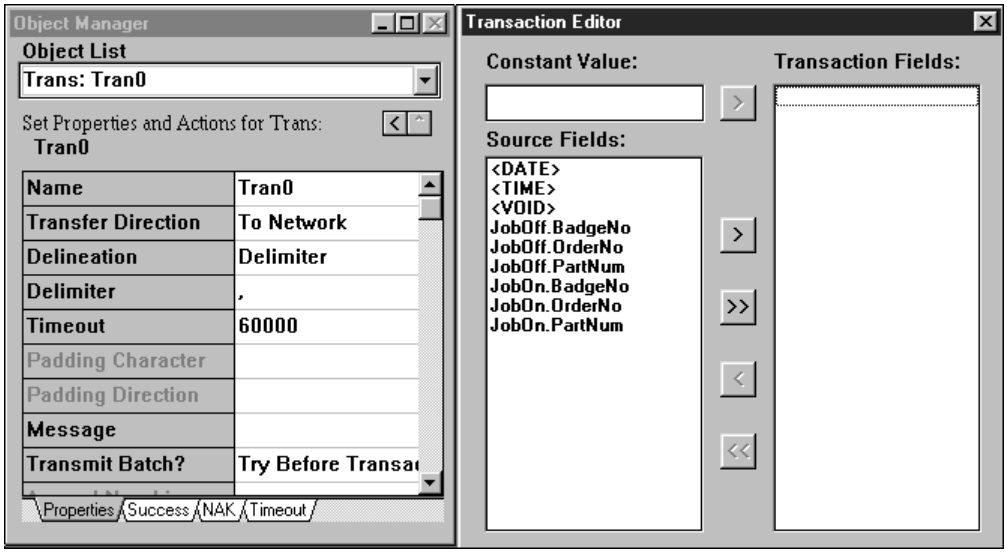
To create the JON_Tran transaction

1. From the Object List, choose the JobOn screen, as illustrated next.

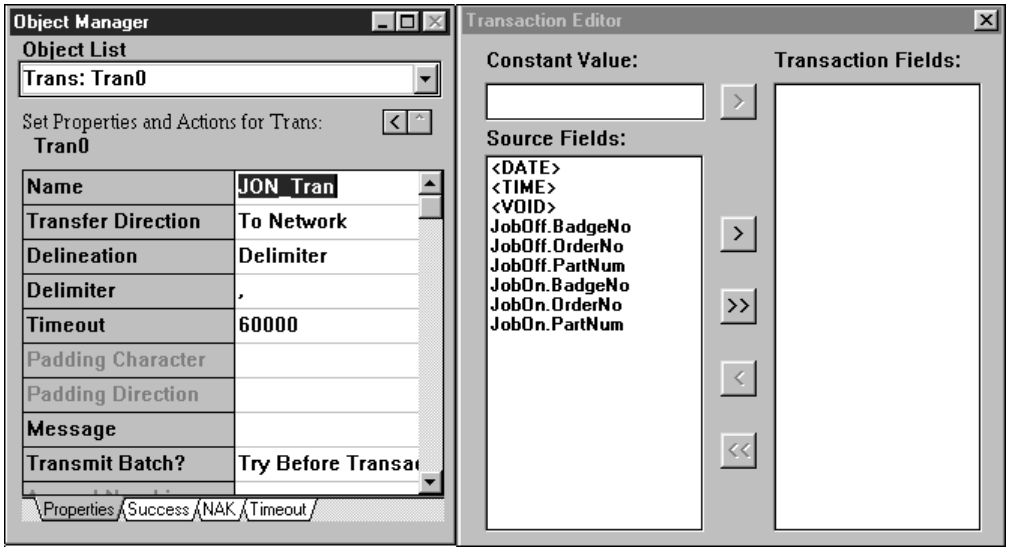
2. From the File menu, choose the New Transaction command. You will see the Transaction Editor dialog box, as illustrated next.
3. Notice there are three main parts to the Transaction Editor dialog box.
   - An area where you can enter a Constant Value.
   - A list of the Source Fields you have created.
   - An area where you can create a list of Transaction Fields.
4. Notice the two small buttons marked with the > symbol. One button moves the Constant Value into the Transaction Fields list and the other moves selected field(s) from the Source Fields list into the Transaction Fields list.
5. Notice the small button marked with the >> symbol. This moves ALL fields in the Source Fields list into the Transaction Fields list.

6. The two small buttons marked < and << remove (selected or ALL) fields from the Transaction Fields list.

   Note: *As a general rule, you may want to avoid using the >> button because it moves ALL the data fields over, and you may not need them all. Also, the fields will be in the same (alphabetic) order as they are in the Source Fields list. You may not want the fields in this order in the Transaction record.*

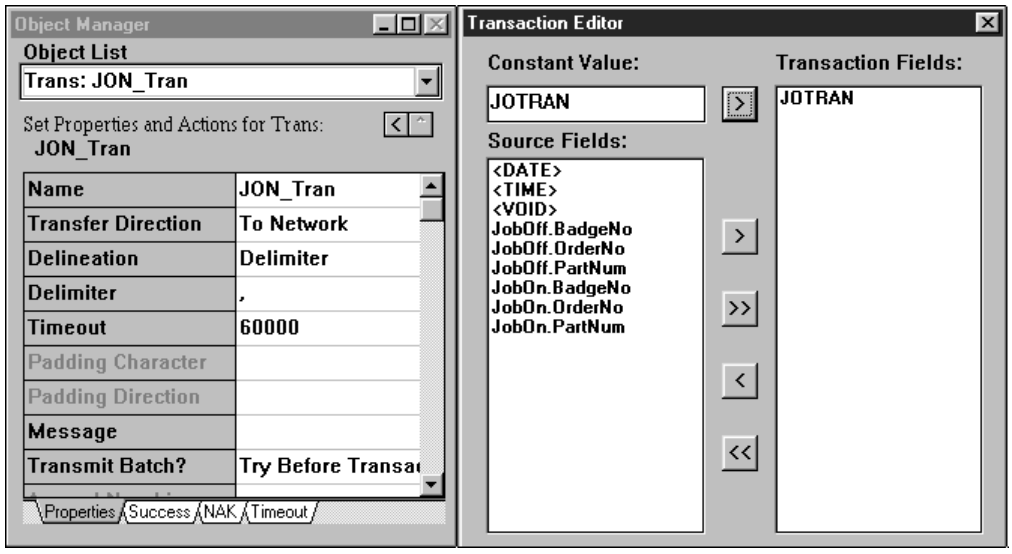


7. The transaction default name, “Tran0,” is shown in the Object List. Enter “JON_Tran” in the Name property to rename this transaction, as illustrated next.

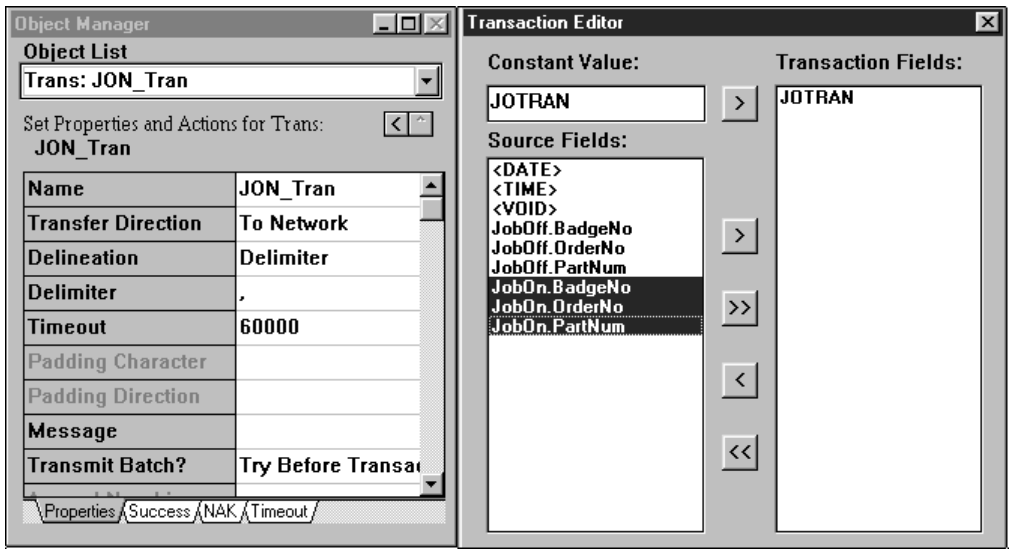


8. In the Transaction Editor dialog box, enter “JOTRAN” as the Constant Value. Click the Constant Value’s small button marked with > to move the value you entered into the Transaction Fields list, as illustrated next.

   Note: *The value, JOTRAN, as the first output data item in a transaction record, identifies the data record as a Job On type of transaction.*



9. In the list of Source Fields, highlight the JobOn.BadgeNo, JobOn.OrderNo, and JobOn.PartNum fields, as illustrated next. (Hold down the **Ctrl** key or **Shift** key on your keyboard while you select multiple fields.)



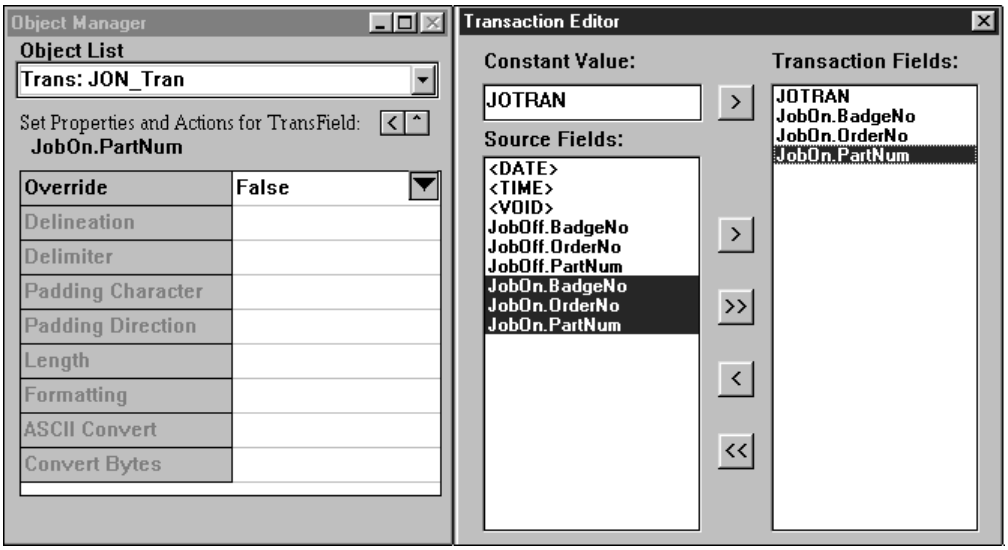
10. Click the Source Fields button marked with > to move the highlighted fields into the list of Transaction Fields.

    Note: *Another method is to grab the highlighted Source Fields with the mouse and drag them into the Transaction Fields list. Alternatively, you can just double-click on the items in the Source Fields list.*

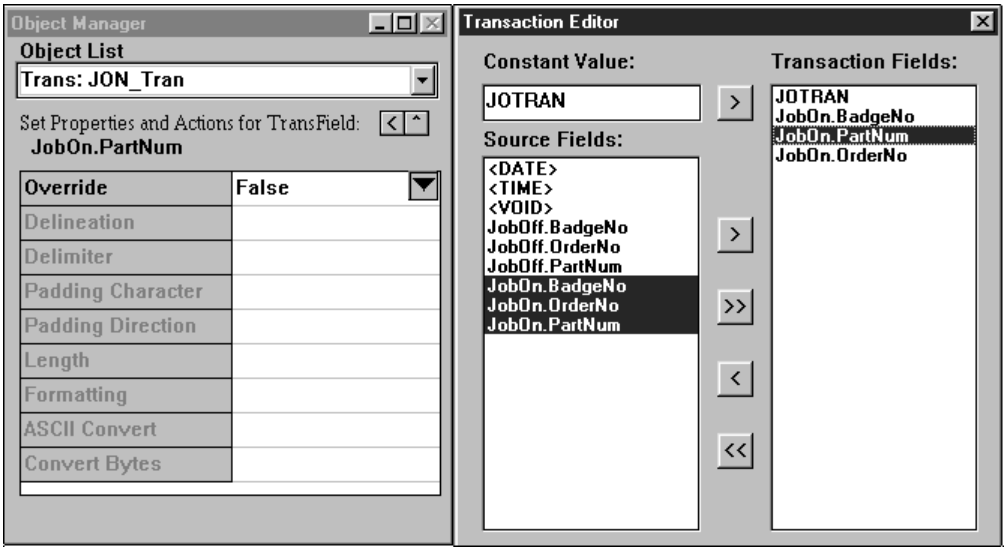
11. Notice that, for this tutorial exercise, the data fields shown in the previous illustration are in the wrong order in the Transaction Fields list.

    Note: *The JobOn and JobOff screens were designed to show the data fields ordered (top to bottom) as Badge ID, Part Number, and then Order Number. This is also shown in the Job On Transaction Process illustration shown in Chapter 1. This order is also shown in the Example Output part of Chapter 5.*

12. The data fields in the Transaction Fields list should be in the same order as they are shown on the JobOn and JobOff screens, not in alphabetic order. To correct this, click to highlight JobOn.PartNum in the Transaction Fields list, as illustrated next.



13. Use your mouse to drag the highlighted JobOn.PartNum field to its correct place, up above the JobOn.OrderNo field, as illustrated next.



14. Highlight the automatic <DATE> and <TIME> in the Source Fields list and drag or click the > button to move them over to the Transaction Fields list.

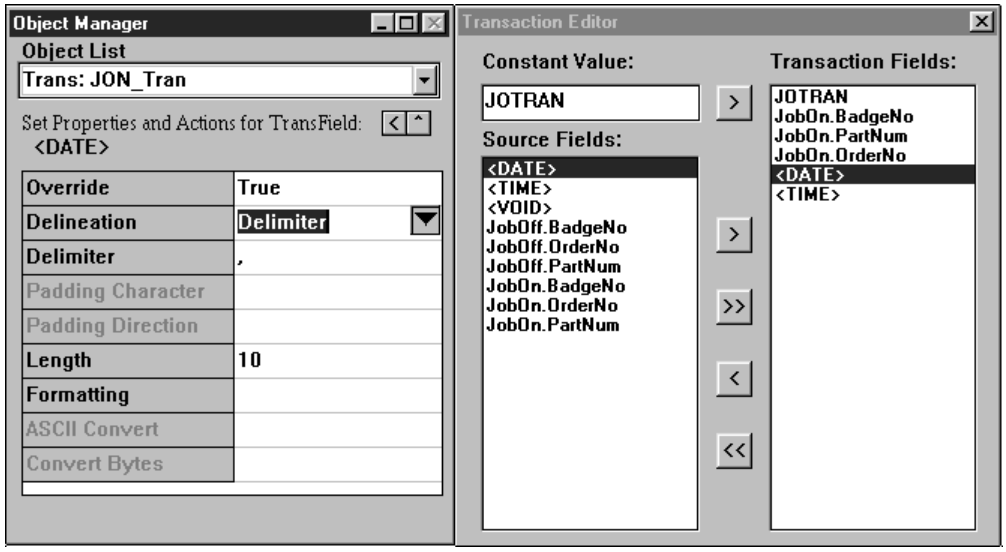
    Note: *You now have six items in the Transaction Fields list: JOTRAN, three data input fields (JobOn.BadgeNo, JobOn.PartNum, and JobOn.OrderNo) and the automatic Date and Time from the system. You will not change the current property settings (which may be default properties or your own previously set properties) for most of these fields. However, for Date, you will replace the default comma delimiter with a blank character, and you will omit a trailing comma after the Time data.*

To adjust Date properties for the JON_Tran transaction

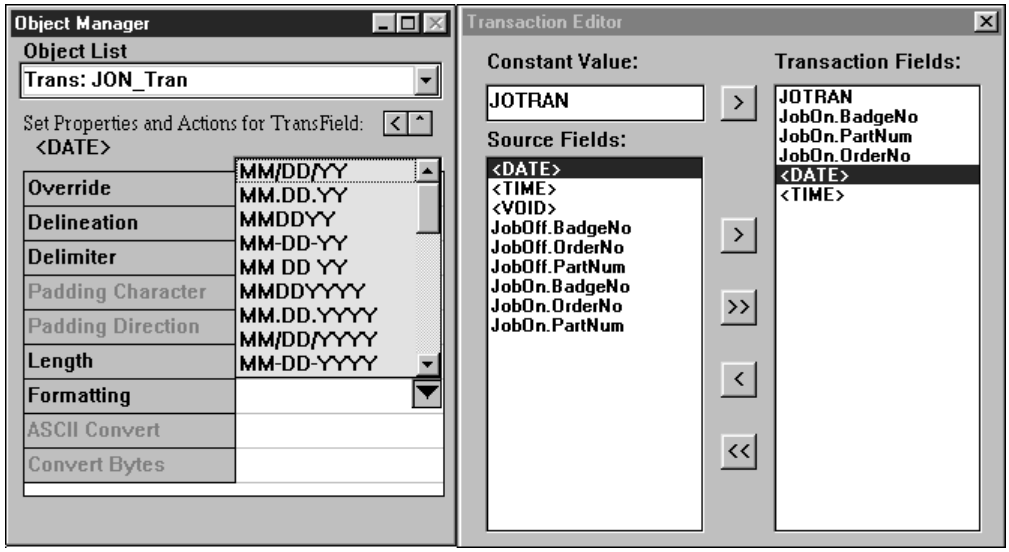
1. Highlight <DATE> in the Transaction Fields list. Notice the properties that are not grayed and may be set at this time. Notice Override = False.

   Note: *Override = False means that you do not want to override current property settings. Override = True means that you do want to override the current property settings. These current settings are defaults set at transaction level for all the fields in this transaction except the length of the transaction field which is inherited from the input field.*

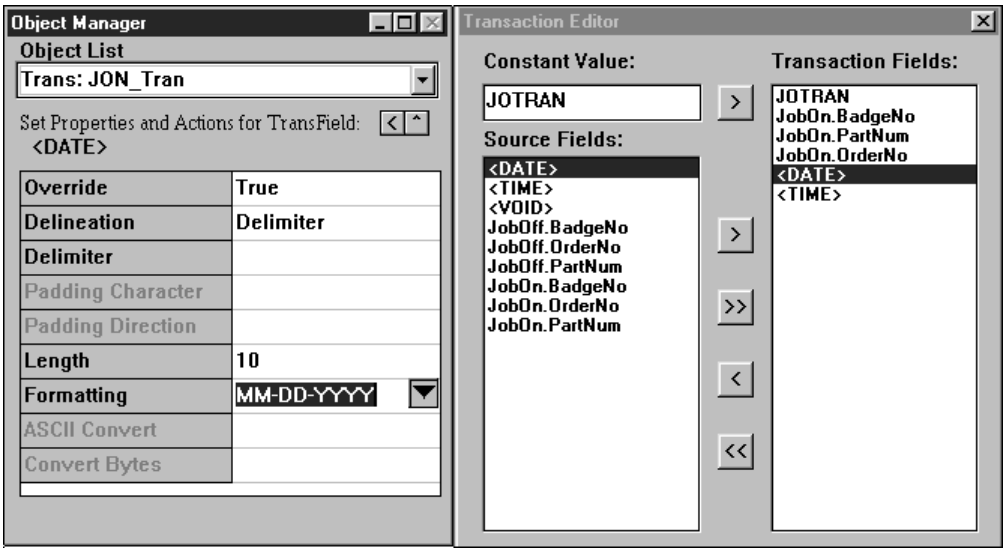
2. Double-click to set Override = True, as illustrated next. When you click to end that entry, notice that Delineation, Delimiter, Length, and Formatting properties may now be set or changed.



3. The Delineation remains = Delimiter. (This means you will use a delimiter character following the Date field—to separate it from the Time field in the output record.) The default Delimiter property is a comma; you will change that Delimiter property.
4. Set the Delimiter to one space character. To do this, highlight the default comma and press the **space bar** on your keyboard once.
5. Length automatically changes to the default of 10. (The date's length can be changed, as needed for the Formatting you choose in the next step.)
6. Click Formatting to get its drop-down list, as illustrated next, and choose the MM-DD-YYYY format option (this date format is ten characters).



7. Check the Date properties result with the next illustration.



To adjust Time properties for the JON_Tran transaction

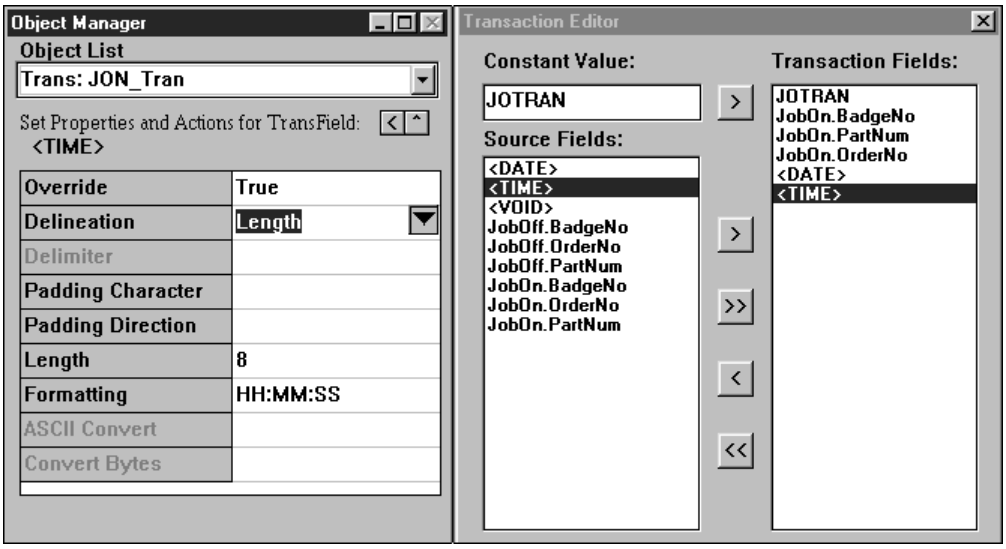
1. Highlight <TIME> in the Transaction Fields list.
2. Double-click to set Override = True. This lets you override the default Delineation (Delimiter = comma).

   Note: *EZBuilder does not attach a trailing (Delimiter) comma after the last field in any transaction. However, we want to change the Delineation from Delimiter to Length. To change Delineation, we need to first set Override = True.*

3. Double-click to set Delineation = Length. As soon as you end that entry, notice the Delimiter property (the comma) is automatically deleted and Delimiter becomes grayed.

   Note: *Time is the last field specified for the output record (see Transactions Fields list). The Delineation property of Length means the automatic carriage return that ends the record will occur immediately after the final character of the Time field is automatically filled, considering the Length and Formatting properties.*

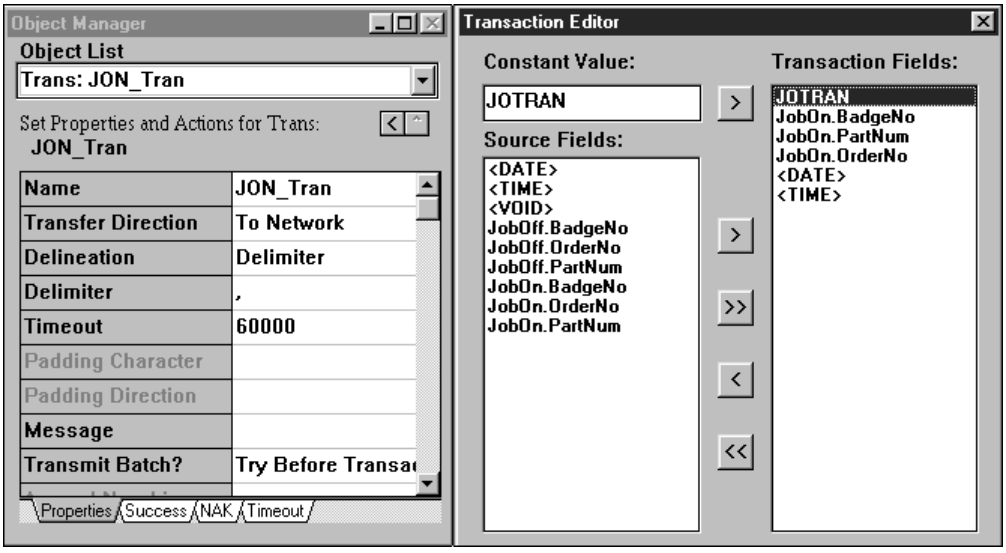
4. Length automatically changes to the default of 8. (The time's length can be changed, as needed for the Formatting you choose in the next step.)
5. From the Formatting property drop-down list, choose the HH:MM:SS format option (this time format is eight characters).
6. Check the Time properties result with the next illustration.



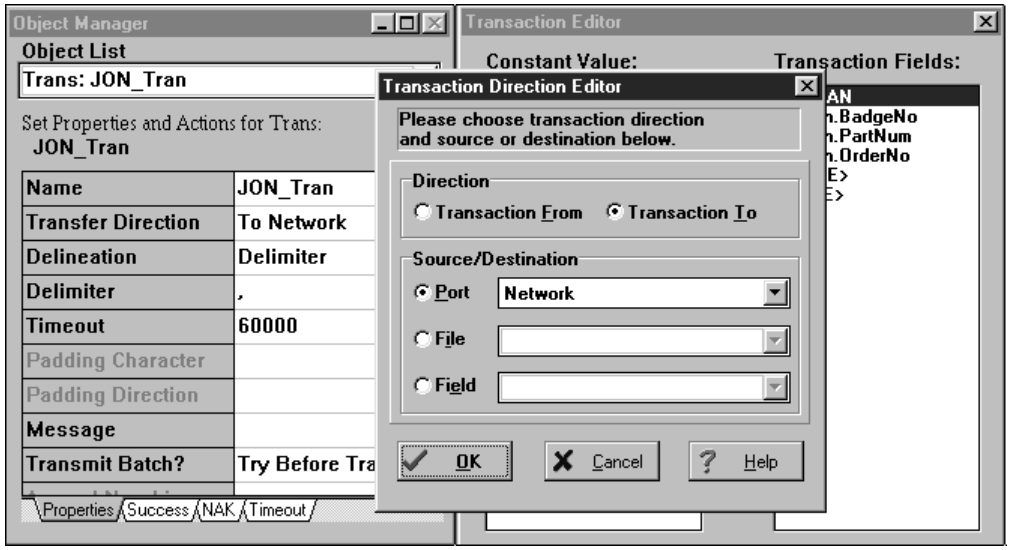
To adjust Transfer Direction for the JON_Tran transaction

Note: *There is one more thing to do before you are finished with the JON_Tran transaction. The default Transfer Direction sends your transactions to the network. For this tutorial exercise, you need to tell EZBuilder that you want to send the transactions to a file.*

1. Click the small ^ button to get the JON_Tran (parent screen) again, as illustrated next.

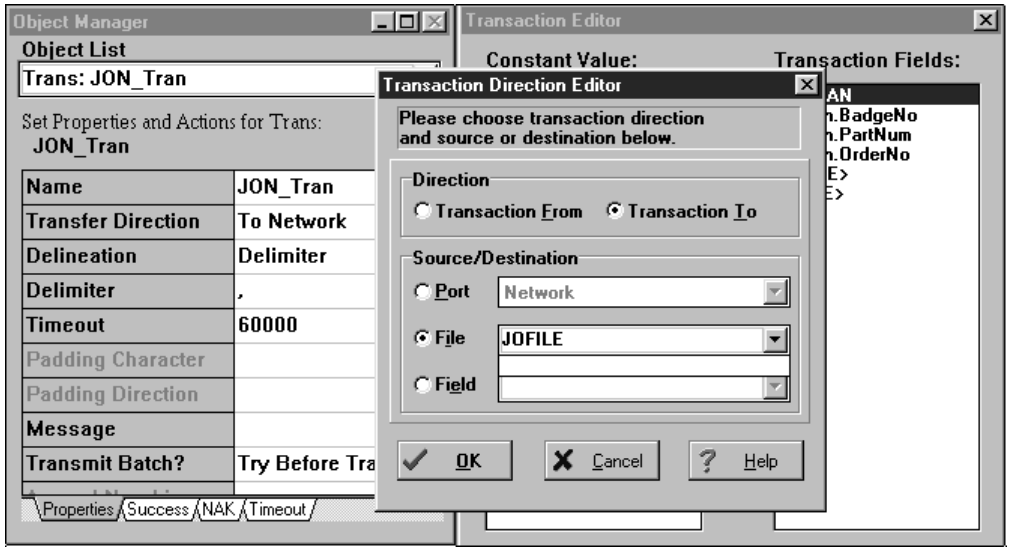


2. Click the Transfer Direction property and then its small button with the three dots to get the Transaction Direction Editor dialog box, as illustrated next. Notice the default Destination option is Port and the port to which a JON_Tran transaction is sent is Network.

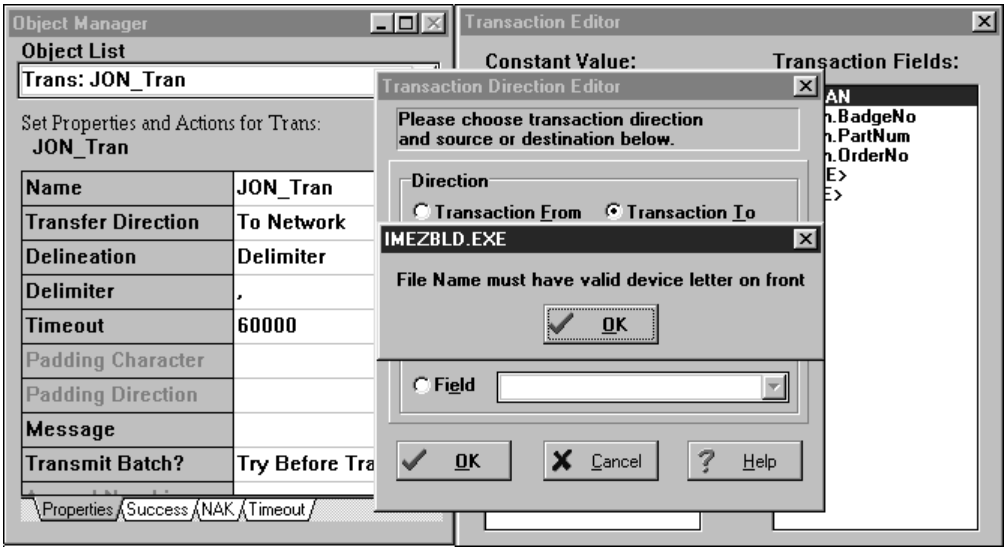


3. Click to change the Destination from the Port option to the File option. Enter the filename to which you want to send the transactions (the Job On and Job Off data). An example filename, JOFILE, is illustrated next.

Note: *Make up a unique filename, perhaps "JOSMITH" for example.*



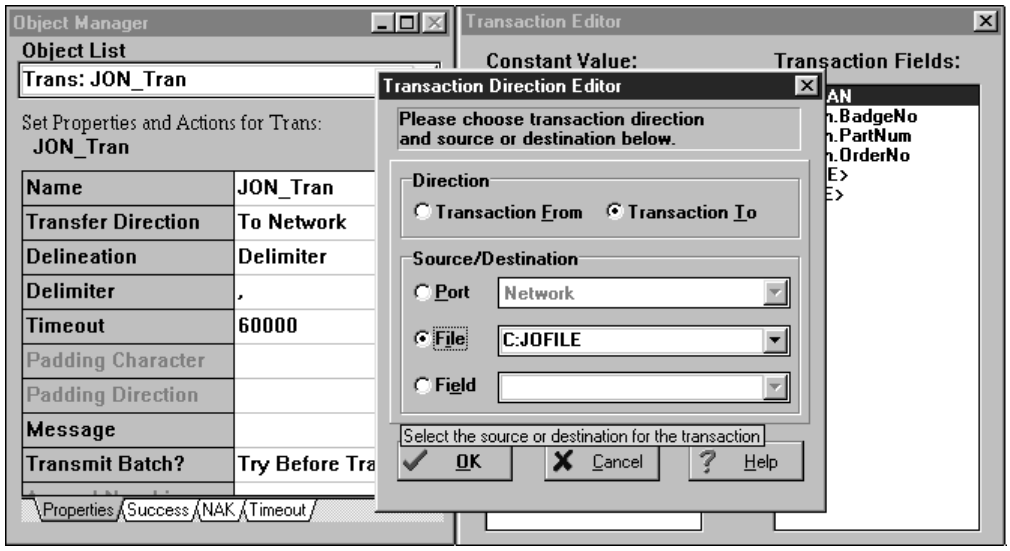
4. Click OK. Suppose, as shown in the previous illustration, you forgot that you must enter a drive letter first, and you enter only a filename (for example, JOFILE). The following message will be presented to remind you to enter the drive letter first.



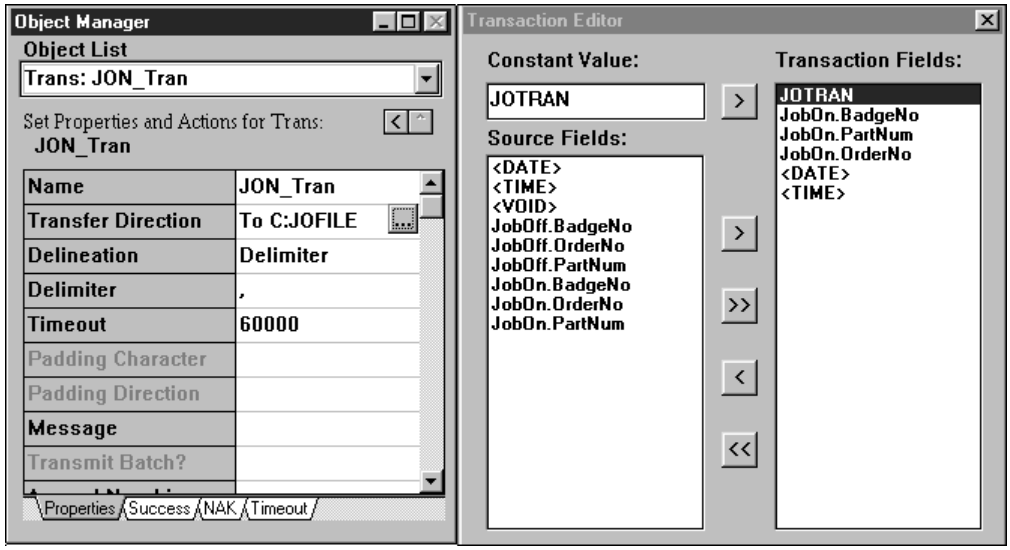
5. Click OK to close the reminder message. Enter the correct drive letter and filename for your output data file. For example, enter "C:JOFILE," as illustrated next.

   Note: *The drive letter:filename format is the only valid format for the TRAKKER Antares.*

   Note: *The file named here will be located in the Output path that you specify in the Build Options dialog box in Chapter 5. The C drive is a Flash drive; the E drive is used if you plan to download to a RAM drive; the G drive is used as an extended storage drive. For file management and RAM drive details, see the* EZBuilder Getting Started Guide.



6. Click OK. The result of the previous Transfer Direction Editor steps is shown in the next illustration.



Note: *You can remove items from the filenames list. If you need to remove an error filename, from the View menu, choose the Resource command. At the bottom of the View Resource dialog box, use the right arrow to get to the File Names page. Delete the unwanted filename from the File Names page.*

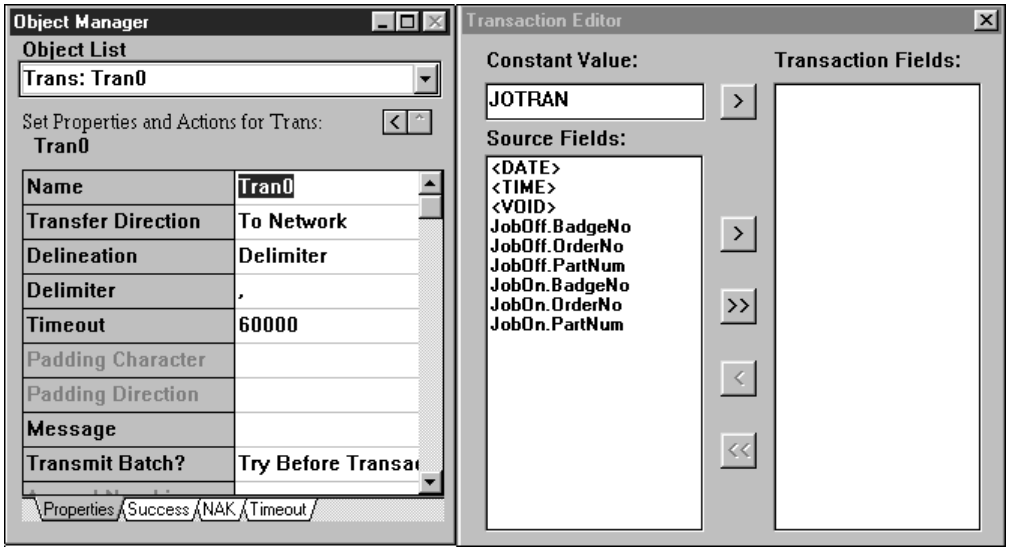
7. You have completed Task 8. Save your file. Continue with Task 9.

Task 9: Creating the JOF_Tran (Job Off) Transaction

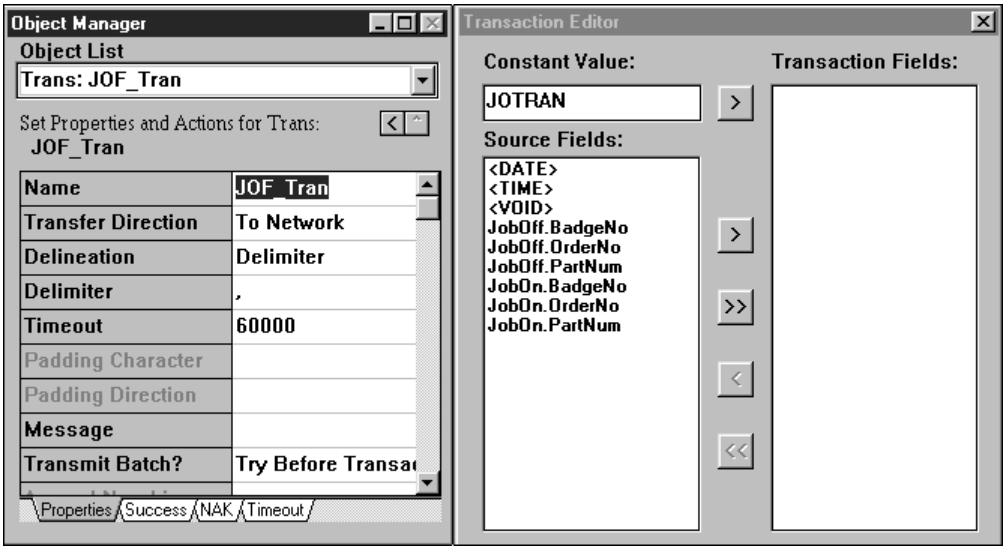
When the user runs your application at the end of a job, data collected for the Job Off transaction includes a constant value ("JOFTRAN"), the worker's Badge ID Number, the Part Number, the Order Number, the date and the time.

To create the JOF_Tran transaction

1. From the File menu, choose the New Transaction command.
2. Click to highlight "Tran0" (the default name) in the Name property, as illustrated next.

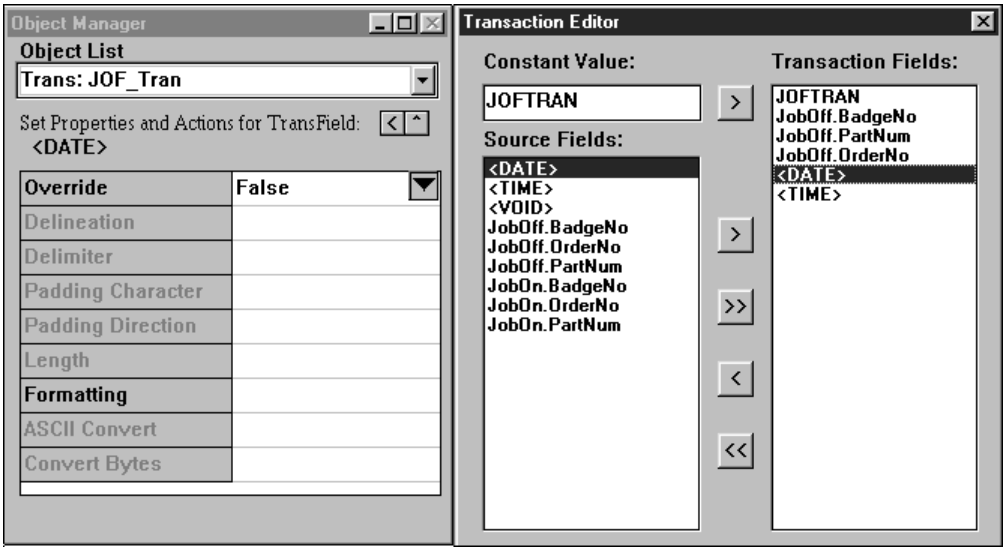


3. Rename the transaction to "JOF_Tran" in the Name property, as illustrated next.



Note: *The next several steps are brief because they are similar to those you did for the JOTRAN transaction. Refer back to Task 8 for details or illustrations.*

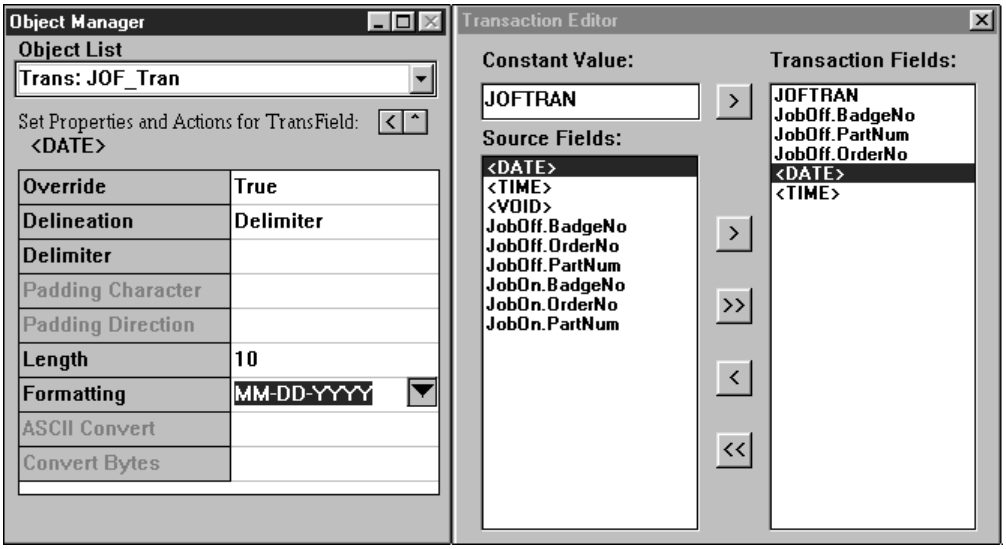
4. In the Transaction Editor dialog box, enter "JOFTRAN" as the Constant Value. Click the Constant Value's small button marked with > to move the "JOFTRAN" value into the Transaction Fields list. As the first field in the data record, "JOFTRAN" will identify the record as a Job Off transaction.
5. In Source Fields list, highlight the JobOff.BadgeNo, JobOff.OrderNo, and JobOff.PartNum fields to be the next three fields in the record. (Hold down the **Ctrl** key or **Shift** key on your keyboard to highlight multiple fields.)
6. Drag the fields, or click the Source Fields > button, to move the highlighted fields into the Transaction Fields list.
7. In the Transaction Fields list, highlight the JobOff.PartNum field and use your mouse to drag it above the JobOff.OrderNo field. Release mouse.
8. In the Source Fields list, double-click <DATE> and then double-click <TIME> to quickly move these fields over to the Transaction Fields list.
9. Check to be sure you have six fields in the Transaction Fields list, as illustrated next.



10. Like for the JON_Tran transaction that you completed earlier, the current properties remain as they are for all the Transaction Fields except the <DATE> and <TIME> fields. These two fields will be changed the same way as you changed them for the JON_Tran transaction.

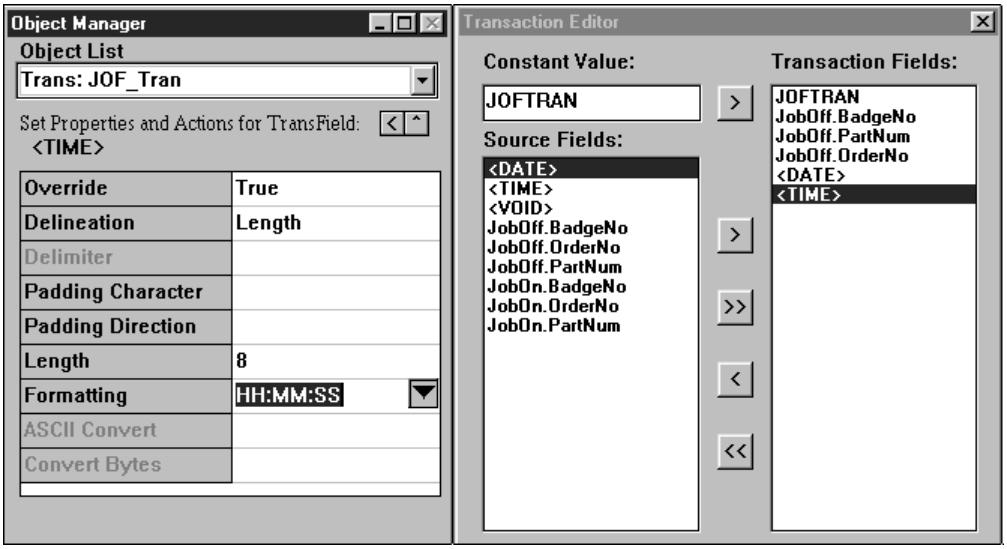
To adjust Date properties for the JOF_Tran transaction

1. Highlight <DATE> in the Transaction Fields list to set the Date properties.
2. Double-click to set Override = True.
3. Change the Delimiter property from a comma to one blank character.
4. Choose the MM-DD-YYYY Formatting option.
5. Check the Date properties result with the next illustration.



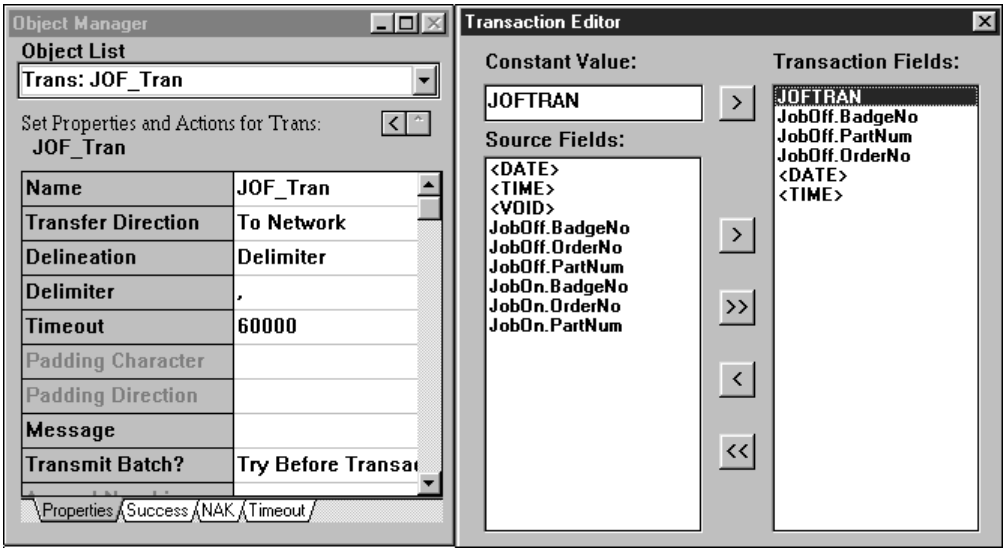
To adjust Time properties for the JOF_Tran transaction

1. Highlight <TIME> in the Transaction Fields list.
2. Double-click to set Override = True.
3. Double-click to set Delineation = Length.
4. Choose the HH:MM:SS Formatting option (eight characters).
5. Check the Time properties result with the next illustration.



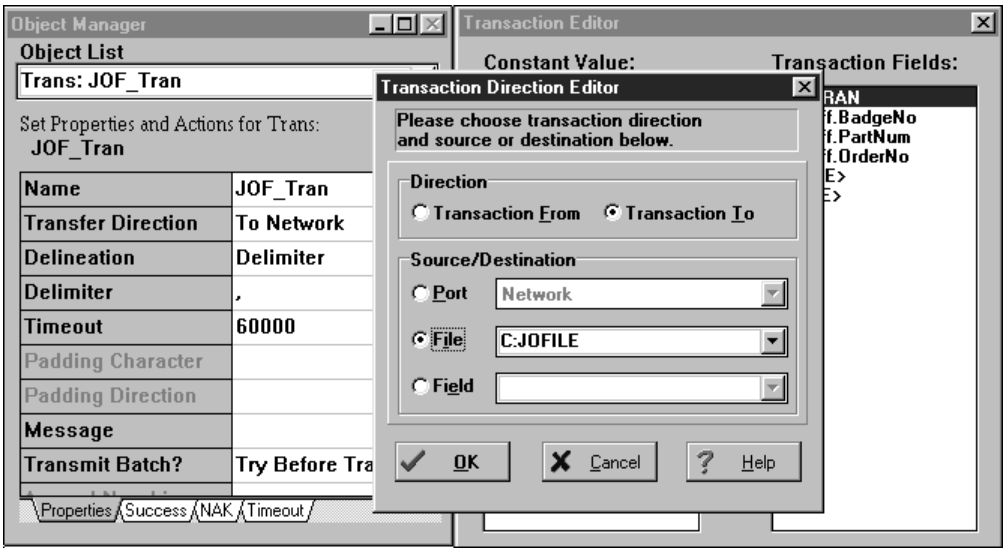
To adjust Transfer Direction for the JOF_Tran transaction

1. Click the small ^ button to make the JOF_Tran (parent screen) active again, as illustrated next. Notice the Transfer Direction property.



2. Click in the Transfer Direction property and click its small button to bring up the Transaction Direction Editor.

3. In this tutorial exercise, both JON_Tran and JOF_Tran transactions go into the same output file. Change the Destination from the Port option (showing "Network") to the File option, and name the same drive and file that you named for the JON_Tran transaction in Task 8, as shown in the next illustration. Click OK to close the Transaction Direction Editor dialog box.



Note: *Later, when the program is run, there should be one JOTRAN (Job On) transaction for a specific job, followed by that job's JOFTRAN (Job Off) transaction. These will be followed by other pairs of JOTRAN and JOFTRAN transaction records as further jobs are finished. (See Chapter 5 for example output.)*

4. You have completed Task 9. Save your file, and continue with Task 10.

Task 10: Finishing the Transactions

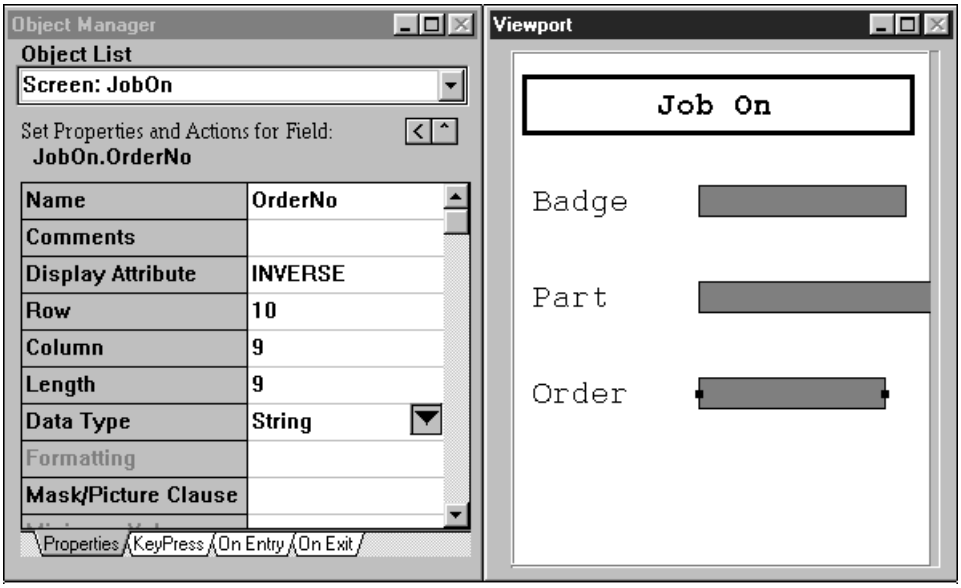
Before you can build and test your program, there is a little bit more work to do for both the Job On Screen and Job Off Screen that relates to the JON_Tran and JOF_Tran transactions that you just created.

As your program stands right now, the user will enter or scan the Badge ID Number, the Part Number, and the Order Number, in that order. The program still needs to be told that upon exiting the scan (or entering the last keystroke) of the Order Number (the last data field), all the gathered information must be packaged by the transaction and sent to the file.

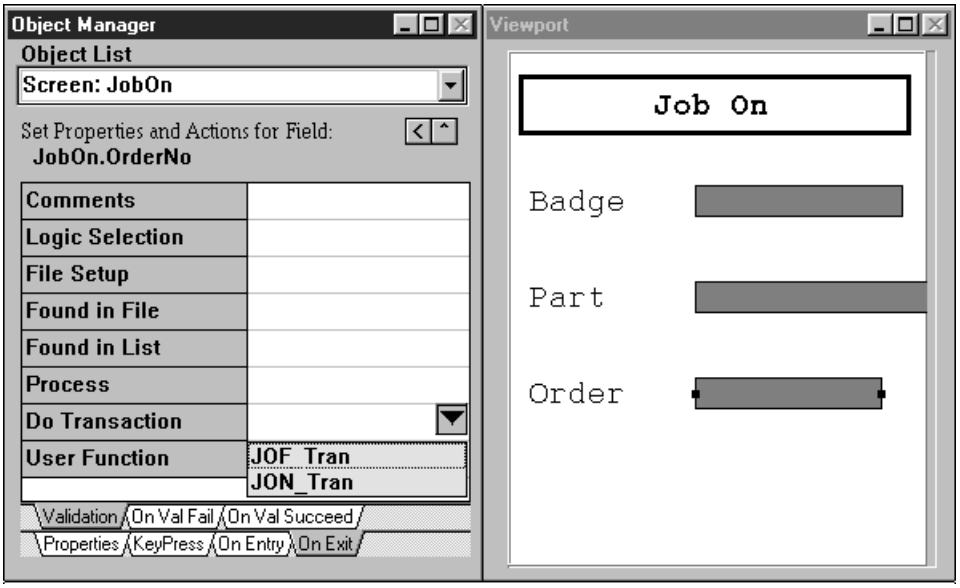
To finish the Job On Transaction

1. From the Object List, choose the Job On screen, as illustrated next.

2. In the Viewport, double-click the shaded data field labeled "Order." You should have the same result as illustrated next.



3. Notice the tabs at the bottom of the Object Manager window. The Properties tab is currently shaded (highlighted), as illustrated above. Click the On Exit tab, and the Validation dialog box will be presented to you.
4. In the Validation dialog box, click the (blank) Do Transaction property, then click the property's down arrow to see the two options, JOF_Tran and JON_Tran, as illustrated next.



5. Choose the JON_Tran option for the Do Transaction property, as illustrated next. This tells EZBuilder that, when the user exits the Order data field, you want the program to generate a Job On transaction.

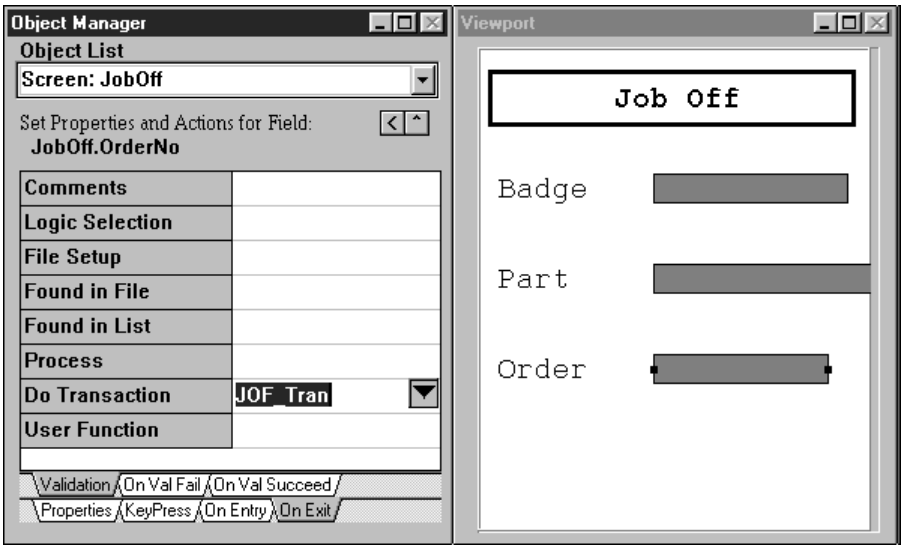
   Note: *In other words, when the user of your program finishes the scan or entering of the Order data, an output record is sent to the file. The record will start with the JOTRAN identifier to indicate it is a Job On Transaction. The record will also contain the Badge, Part, and Order data as well as Date and Time of transaction. (See Chapter 1 for an illustration of this process; see Chapter 5 for example data.)*

To finish the Job Off Transaction

Note: *These steps are similar to what you just did for the Job On screen. Refer back to the previous steps if you want illustrations of each step.*

1. From the Object list, choose the Job Off screen.
2. In the Viewport, double-click the shaded data field labeled "Order."
3. At the bottom of the Object Manager window, click the On Exit tab to get the Validation dialog box.
4. In the Validation dialog box, click the (blank) Do Transaction property, then click the property's down arrow to see the two options, JOF_Tran and JON_Tran.
5. Choose the JOF_Tran option for the Do Transaction property, as illustrated next. This tells EZBuilder that, when the user exits the Order data field, you want the program to generate a Job Off transaction.

Note: *In other words, when the user of your program finishes the scan or entering of the Order data, an output record is sent to the file. This record will start with the JOFTRAN identifier to indicate it is a Job Off Transaction. The record will also contain the Badge, Part, and Order data as well as Date and Time of transaction. (See Chapter 1 for an illustration of this process; see Chapter 5 for example data.)*



6. You have completed Task 10. Save your file. Continue with Task 11.

Task 11: Creating the CopyBadge Transaction

Note: *This Task is optional, but it presents a good way you can save some user time when running this type of application. We recommend you complete this task.*

To review the tutorial application: Upon starting a new job, the user scans a bar code or enters the letters “SFCLBR” (Start Factory Labor). This input data tells the terminal that a JobOn transaction is started and automatically sends the JOTRAN constant value into the JON_Tran Transaction Fields list.

The user then enters or scans the other Job On transaction data—the Badge ID Number, Part Number, and Order Number—in that order.

Following that, the job activity is performed by the user.

Upon ending the job, the user scans a bar code or enters the letters “EFCLBR” (End Factory Labor). This input data tells the terminal that a JobOff transaction is started and automatically sends the JOFTRAN constant value into the JOF_Tran Transaction Fields list. The user again enters or scans the (same) Badge ID Number, Part Number, and Order Number data, in that order.

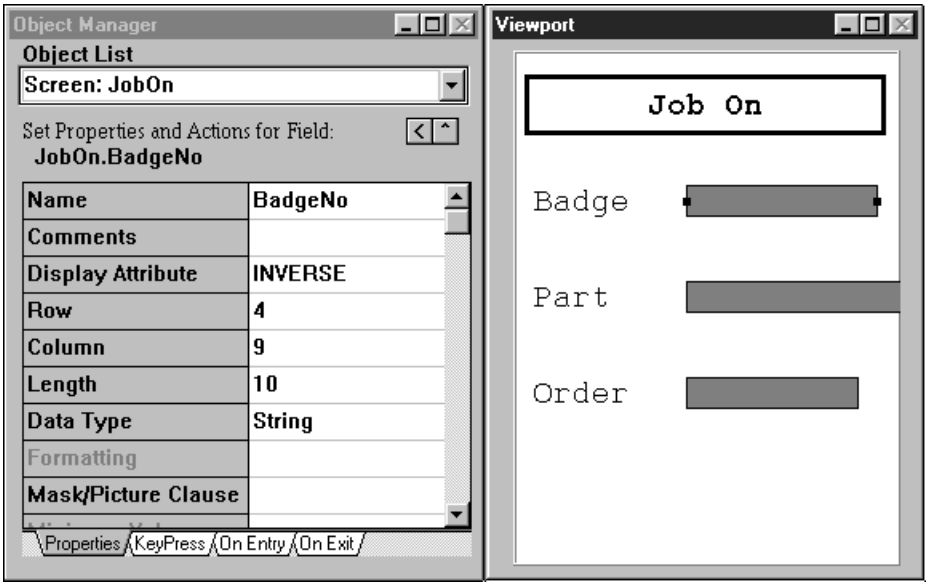
Notice that for this tutorial exercise, with the exception of the SFCLBR and EFCLBR codes, the same three data fields are entered and scanned twice—at the start of a job and at the end of a job.

Suppose the same three data fields were automatically entered at the end of the job? The user saves time, having to only enter or scan the EFCLBR at the end of the job to generate the Job Off transaction. Not only does it save time, but it ensures accuracy as well—especially if data is keyed in by the worker.

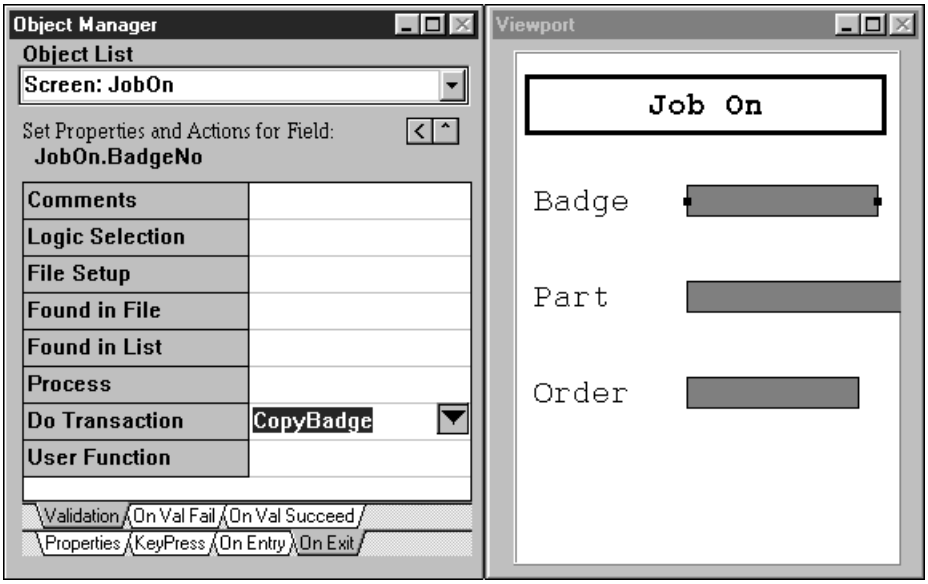
This task will show you how to accomplish the automatic copying of data from one field (JobOn.BadgeNo) into another field (JobOff.BadgeNo). To save tutorial time, we will show you how to create only the CopyBadge transaction. You can apply the same methodology to create CopyPart and CopyOrder transactions, if you want.

To create the CopyBadge Transaction

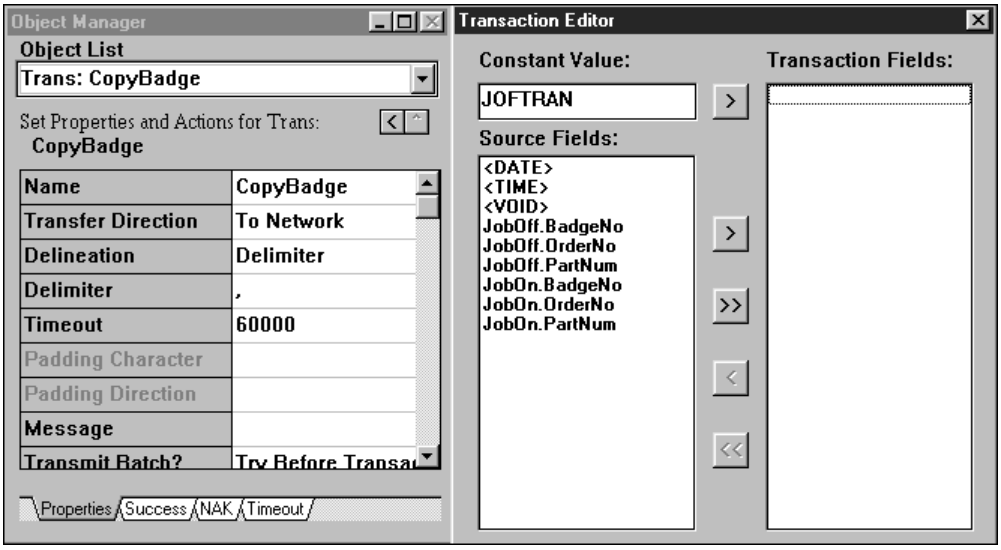
1. From the Object List, choose the JobOn screen.
2. In the Viewport, double-click on the shaded BadgeNo data area to select it (get its handles) and to see its properties, as illustrated next.



3. At the bottom of the Object Manager window, click the On Exit tab.
4. On the Validation page, type “CopyBadge” in the Do Transaction property, as illustrated next. Do not end the entry yet; leave your cursor in the Do Transaction property field (see next step).



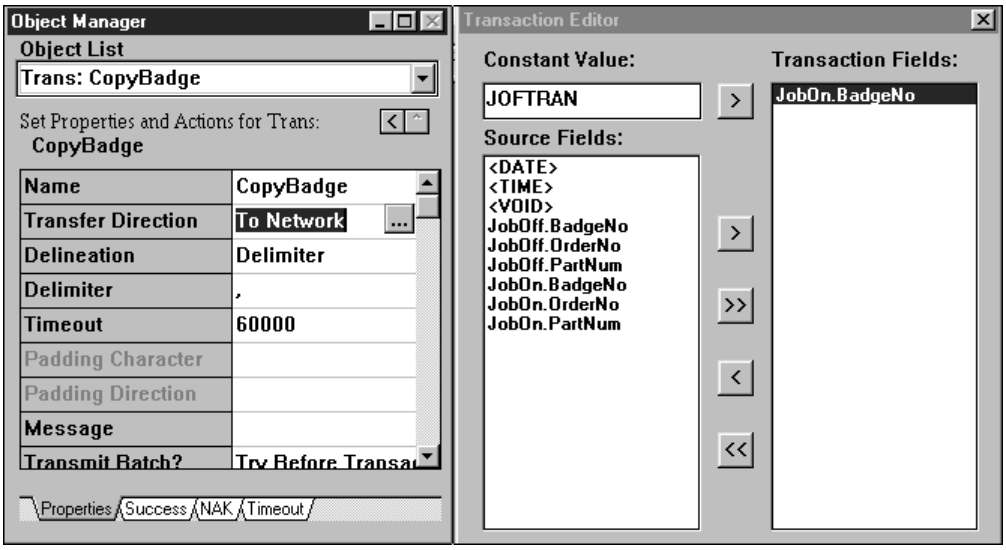
5. Without first ending the entry, double-click on the "CopyBadge" text you just typed as the Do Transaction property. The CopyBadge transaction will be created (and shown in the Object List), and you will see the CopyBadge transaction properties in the Object Manager and the Transaction Editor dialog box, as illustrated next.



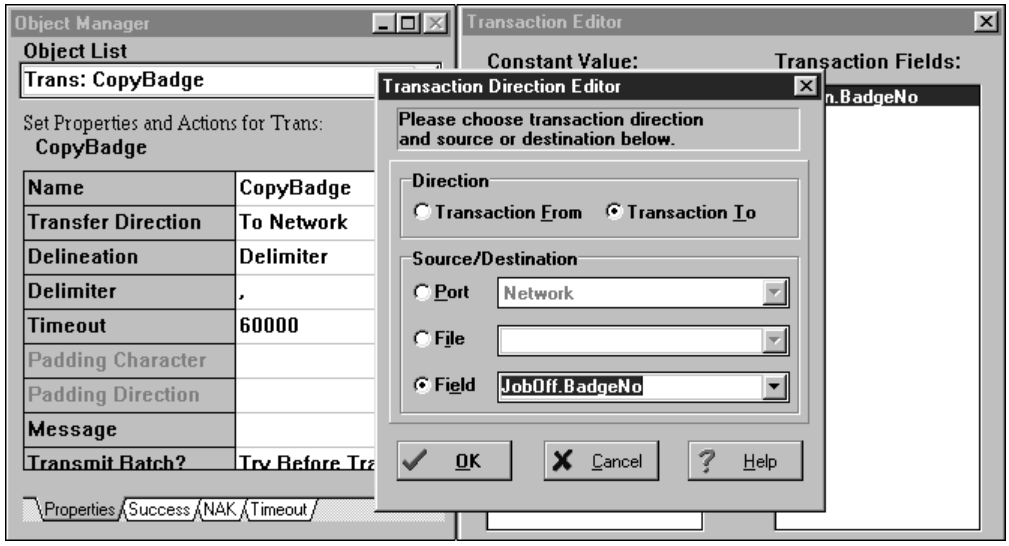
Note: *The constant value, JOFTRAN, will show in the Constant Value area (as previously illustrated) if you have continued your tutorial exercise without exiting at any time since entering that value. The Constant Value, like some other values, is a temporary value that is not saved when you exit EZBuilder. Therefore, some of*

your screens may look slightly different because you will not see the temporary values on your screen unless you work straight through the exercise—as was done to capture the screen pictures for this document. Also, do not let the Constant Value "JOFTRAN" confuse you. The Constant Value is not part of the transaction you are now defining; only those objects you move into the Transaction Fields list become part of the current transaction you are defining.

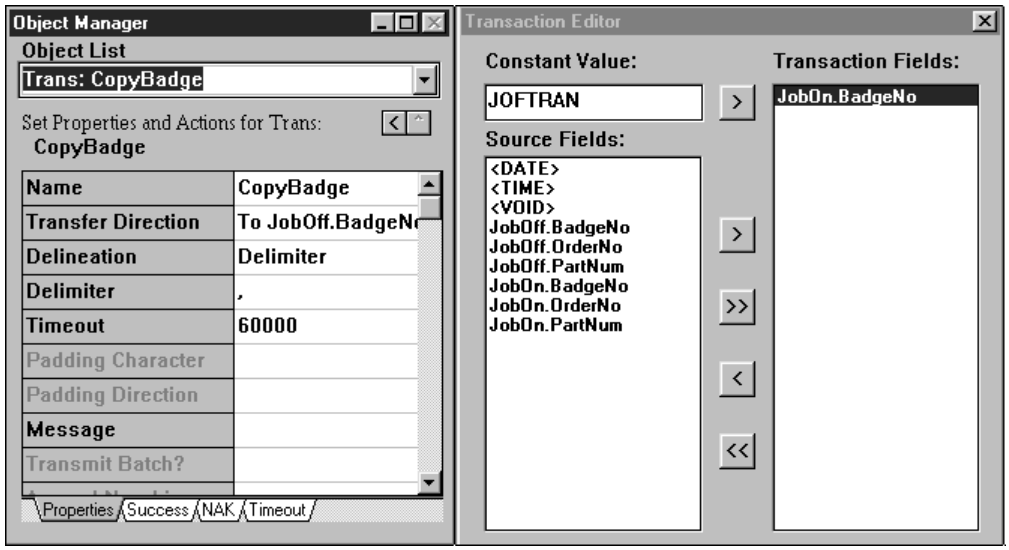
6. In the Source Fields list, double-click JobOn.BadgeNo to move it to the Transaction Fields list.
7. Click the Transfer Direction property which has the default To Network, as illustrated next. See its small button with the three dots.



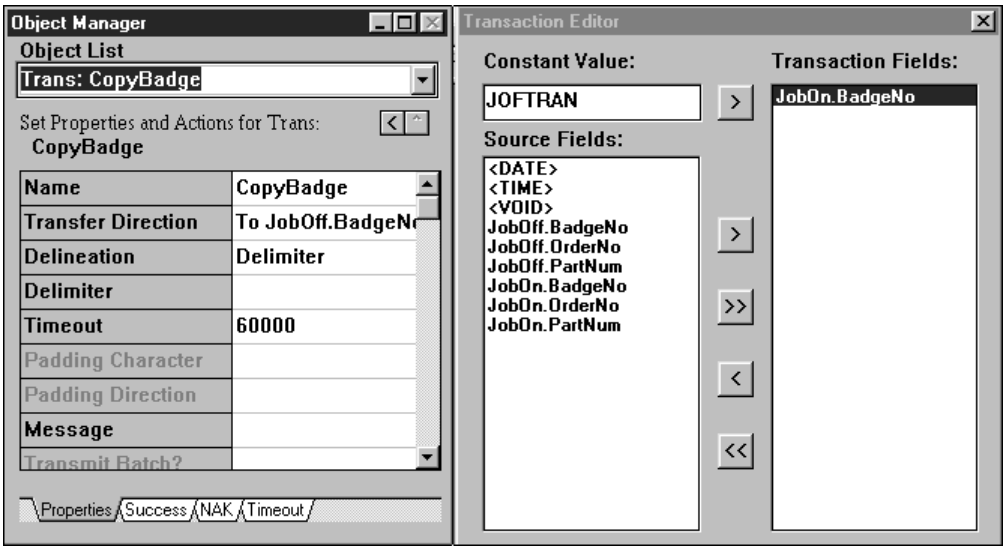
8. Click the Transfer Direction property's small button with the dots to get the Transaction Direction Editor dialog box. This is where you tell EZBuilder where you want to automatically send the JobOn.BadgeNo data.
9. In the Transaction Direction Editor dialog box, choose the Destination option "Field." From the drop-down list for that option, choose the JobOff.BadgeNo field, as illustrated next.



10. Click OK to close the Transaction Direction Editor dialog box. Check your Transfer Direction property result with the next illustration.



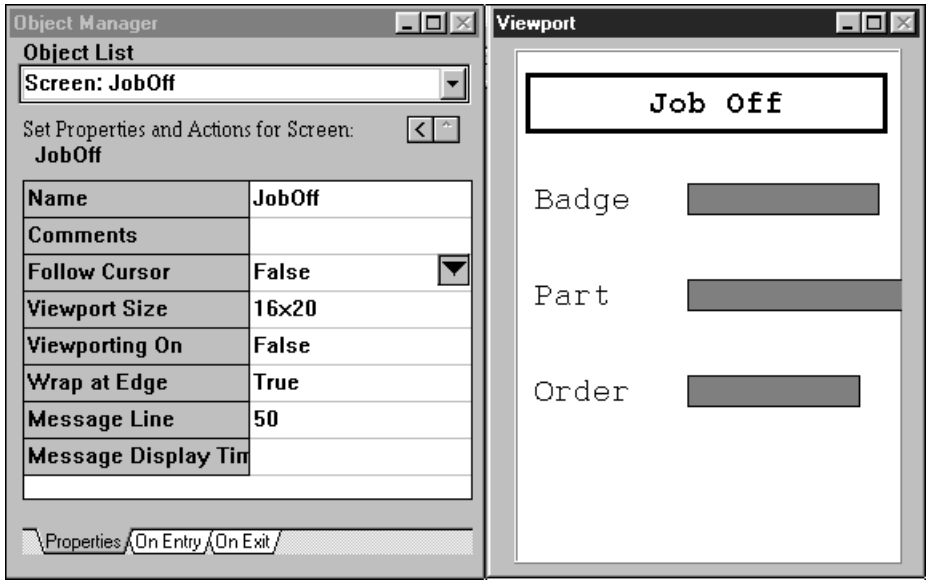
11. Highlight the Delimiter property (the comma) and delete it, as illustrated next.



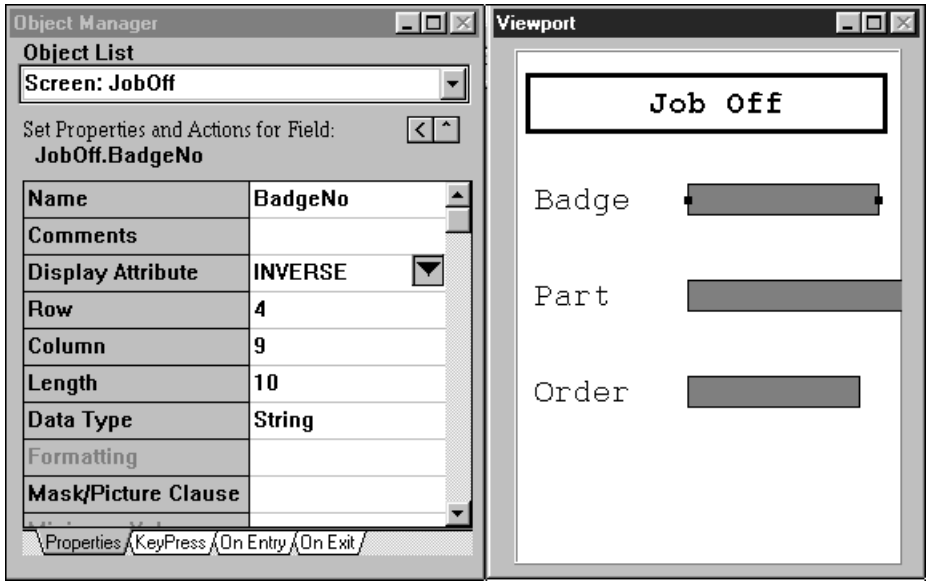
Note: *With the above method, when the user selects the Job On transaction from the Main Menu and enters the Badge ID Number into the JobOn.BadgeNo field, that data is automatically entered into the Job Off transaction's JobOff.BadgeNo field as well. If desired, you could also code Part Number and Order Number data to also automatically move from the JobOn data fields to their corresponding JobOff data fields.*

There is one important thing to clean up. The copying occurs when the user enters data on the JobOn screen. However, when the user goes to the JobOff screen, the default is to clear all fields from a previous JobOff transaction (as typically desired). You must now go back to the Job Off screen and tell EZBuilder to stop that automatic clearing of the JobOff.BadgeNo data because you want it saved. The next few steps take care of that process for Badge ID Number data. However, if you have also coded Part Number and Order Number to be automatically entered into the JobOff transaction, you will want to do these next few steps for those fields as well.

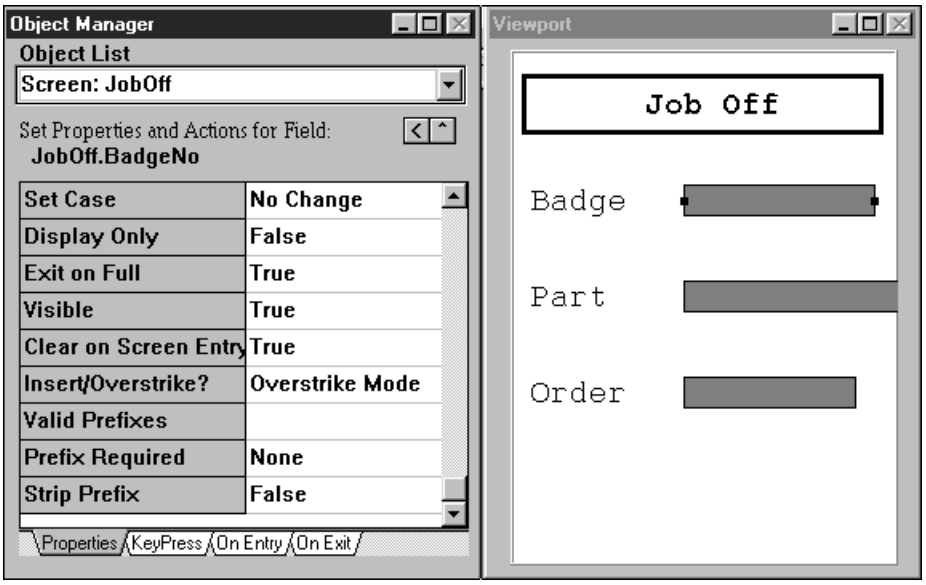
12. From the Object List, go to the JobOff screen, as illustrated next.



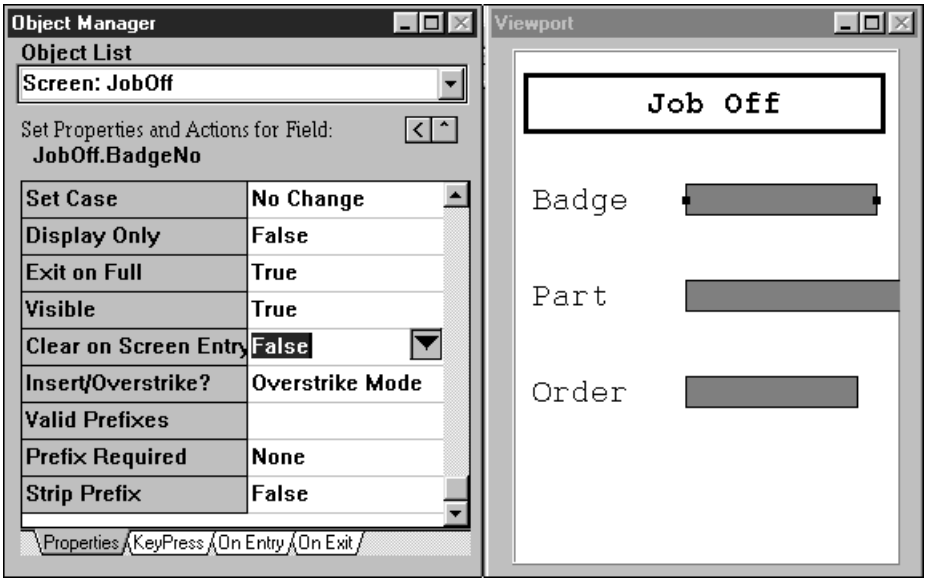
13. In the Viewport, double-click to select the Badge data field, as illustrated next.



14. In the Object Manager, scroll down to near the bottom and locate the Clear on Screen Entry property. See the default is True, as illustrated below.



15. Double-click to change the Clear on Screen Entry property from True to False, as illustrated below.



Note: *Repeat Steps 13 through 15 for Part and Order data fields if you had coded EZBuilder to automatically move their JobOn transaction data into the JobOff transaction fields.*

16. You have finished Task 11. Save your file. Continue with Task 12.

Task 12: Creating "Toggle Screen" Capability

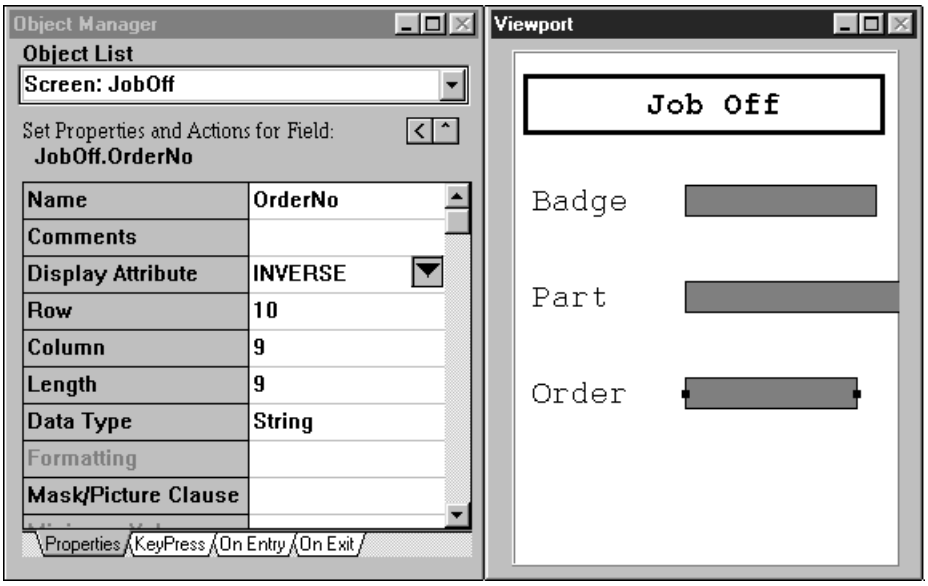
Note: *This is an optional task for this tutorial.*

The way the application is currently coded, the user views your Main Menu and presses F2 to go to the JobOn screen where data is captured at the start of a job. Then, the user presses Esc to return to the Main Menu where F3 can be pressed to take the user to the JobOff screen so data can be captured at the end of the job.

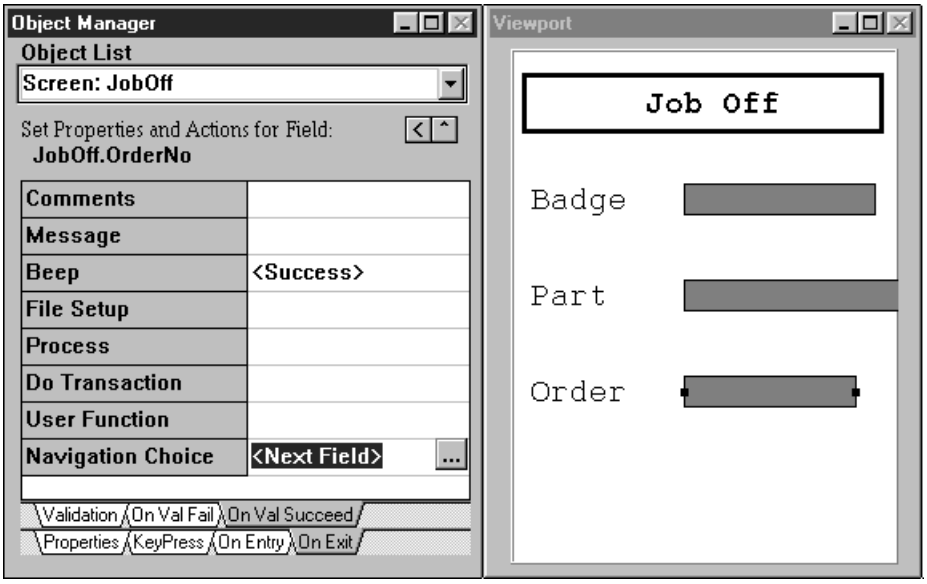
To make it more convenient for the user, this optional task will code your application so the user can go straight to the JobOff screen from the JobOn screen (without having to first return to the Main Menu), and also the user can go back to the JobOn screen straight from the JobOff screen. This is called "toggling between" or "chaining of" screens.

To create toggle capability from JobOff to JobOn screen

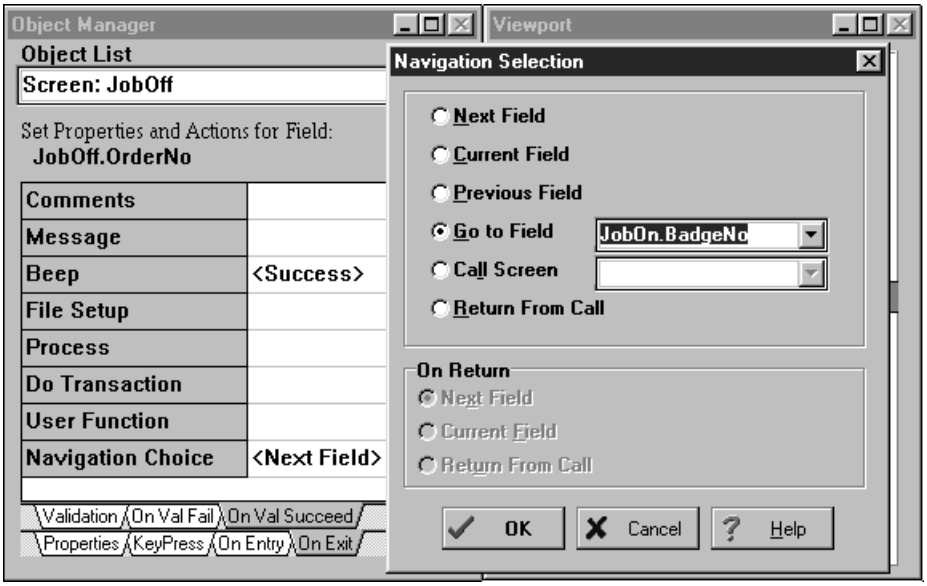
1. From the Object List, go to the JobOff screen.
2. In the Viewport, double-click to select the Order data field, as illustrated next.



3. At the bottom of the Properties and Actions area, choose the On Exit tab, then choose the On Val Succeed tab.
4. Click to highlight the Navigation Choice property, as illustrated next.



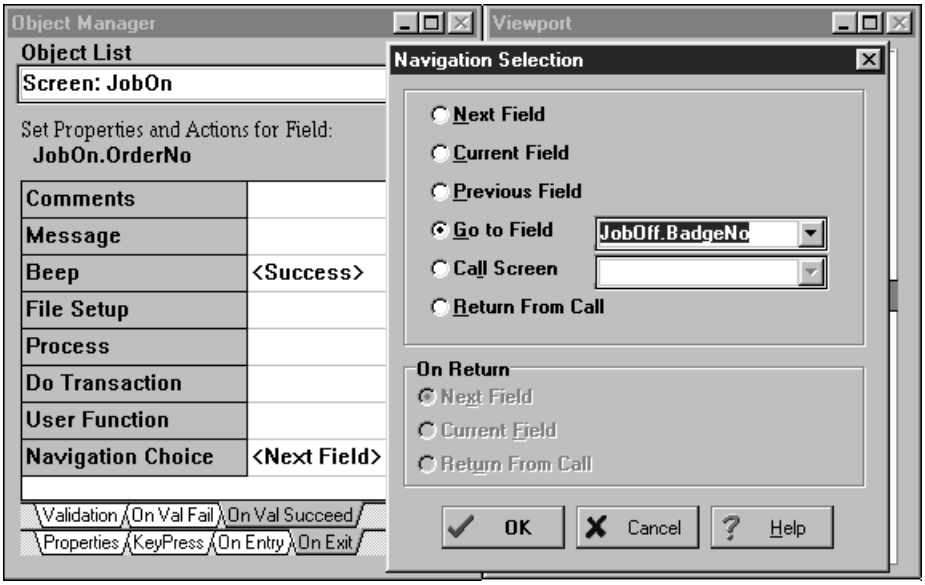
5. Click the Navigation Choice property's small button with the three dots to bring up the Navigation Selection dialog box.
6. In the Navigation Selection dialog box, select the Go to Field option and choose the JobOn.BadgeNo field from the drop-down list, as illustrated next.



7. Click OK to close the Navigation Selection dialog box.

To create toggle capability from JobOn to JobOff screen

1. From the Object List, go to the JobOn screen.
2. In the Viewport, double-click to select the Order data field.
3. At the bottom of the Properties and Actions area, choose the On Exit tab, then choose the On Val Succeed tab.
4. Click to highlight the Navigation Choice property.
5. Click the Navigation Choice property's small button with the three dots to bring up the Navigation Selection dialog box.
6. In the Navigation Selection dialog box, select the Go to Field option and choose the JobOff.BadgeNo field from the drop-down list, as illustrated next.



7. Click OK to close the Navigation Selection dialog box.
8. You have completed Task 12. Save your file.

Chapter Summary

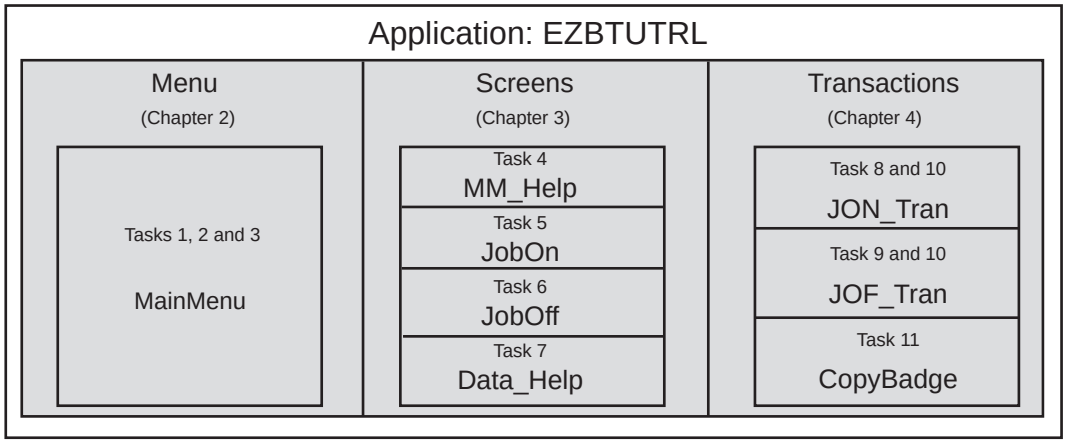
This chapter gave you exercises in creating transactions. It included the creation of Job On, Job Off, and CopyBadge transactions. You also learned how to format the system date and time for automatic date and time stamps, and you learned how to transfer the collected data to a disk file. You also learned how to transfer input data entered on one transaction (JobOn.BadgeNo) into another transaction's field (JobOff.BadgeNo) to be saved for output.

In addition, if you chose to do the optional Task 12, you also learned how to code the capability of toggling transactions; if so, be sure to test this capability during your testing process in Chapter 5.

The EZBuilder components covered up to this point in the tutorial are shaded in the next illustration. You now have finished everything you need to have EZBuilder generate your application program

When you are ready to build and test your application program, continue with Chapter 5. If you want, you can use the example data output provided in Chapter 5. Also, Chapter 5 provides information regarding downloading your application program to the terminal.

Tutorial Exercise Summary



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