eQ Phase 2
Design Proposal

Final

3/19/2003

Revision 3

Contents

New End-User Question Formats

New end-user question formats

The following are the new basic question layouts that will be available. These layouts represent the positional relationship of the response control (radio button, checkbox, listbox) to the "subquestion". All of the following formats may be used for multiple subquestions per panel, up to 20. There are no specific single question formats – use a multiple question form with only one subquestion.

The limit of 20 subquestions per panel definition is arbitrary. Regardless of how many subquestions are used in the question definition, the Notes form design will always contain 20 subquestions and 20 response controls. The more that are allowed, the larger the size of the form design, impacting performance.

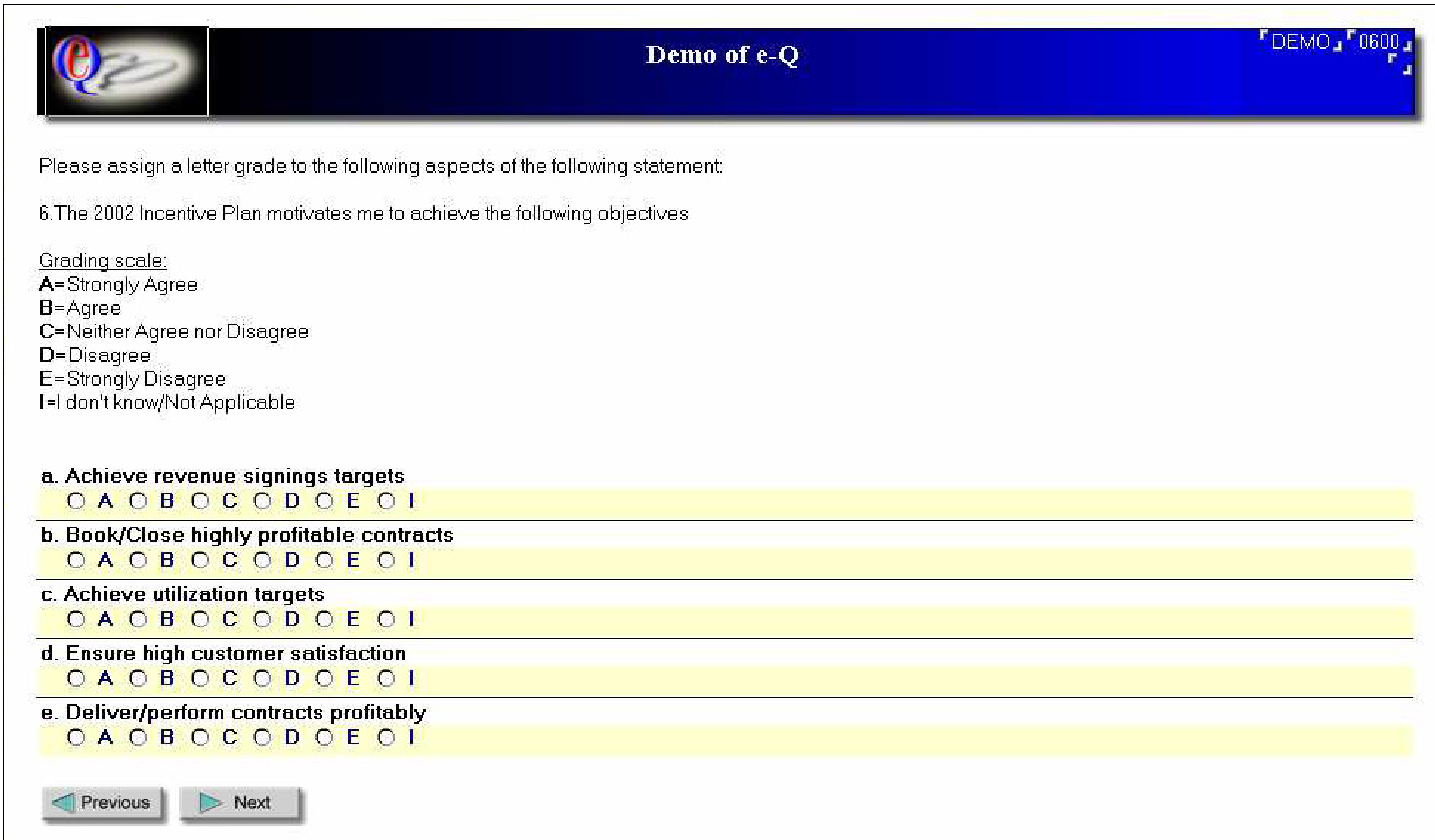
- **8 wide Radio Button:** allows up to 8 responses across the screen where the user can select only one of the choices. Response values must be very short to avoid horizontal scrolling.
- **8 wide Check Box:** allows up to 8 responses across the screen where the user can select several of the choices. Response values must be very short to avoid horizontal scrolling. Verification code controls whether the selected number of responses is allowed.
- **4 wide Radio Button:** allows up to 4 responses across the screen where the user can select only one of the choices. Response values must be short to avoid horizontal scrolling.
- **4 wide Check Box:** allows up to 8 responses across the screen where the user can select several of the choices. Response values must be very short to avoid horizontal scrolling. Verification code controls whether the selected number of responses is allowed.
- **1 wide Listbox Horizontal:** responses are selected from a listbox to the right of the subquestion (like current WYSIWYG or multiresponse). Single or multiple responses may be chosen from the listbox. Verification code controls whether the selected number of responses is allowed.
- **1 wide Listbox Vertical:** responses are selected from a listbox located below the subquestion (like Phase 1 single response listbox). Single or multiple responses may be chosen in the listbox. Verification code controls whether the selected number of responses is allowed.
- **1 wide Radio Button:** responses are selected from a column of radio button selections located below the subquestion (like current single response radio button). User can select only one of the choices.
- **1 wide Check Box:** responses are selected from a column of check box selections located below the subquestion (like column selection format). User can select any number of the choices. Verification code controls whether the selected number of responses is allowed.

In the Admin Basic Question Maintenance edit mode, an interface will be provided which will allow the switching between the various layouts so that they may be viewed in Run mode, to verify that the control is appropriate for the table data being presented.

The following current screen layouts will be deprecated:

- WYSIWYG (superceded by 1 wide Listbox Horizontal)
- WYSIWYG comments (superceded by Instruction with Comment option)
- Multiple Response (4/10) (superceded by 1 wide Listbox Horizontal)
- Single Response Listbox (superceded by 1 wide Listbox Vertical)
- Single Response Radio Box (superceded by 1 wide Radio Button)
- Column Selection (superceded by 1 wide Check Box)

8-wide formats


Demo of e-Q

DEMO 0600

Please assign a letter grade to the following aspects of the following statement:

6.The 2002 Incentive Plan motivates me to achieve the following objectives

Grading scale:
A=Strongly Agree
B=Agree
C=Neither Agree nor Disagree
D=Disagree
E=Strongly Disagree
I=I don't know/Not Applicable

a. Achieve revenue signings targets
○ A ○ B ○ C ○ D ○ E ○ I

b. Book/Close highly profitable contracts
○ A ○ B ○ C ○ D ○ E ○ I

c. Achieve utilization targets
○ A ○ B ○ C ○ D ○ E ○ I

d. Ensure high customer satisfaction
○ A ○ B ○ C ○ D ○ E ○ I

e. Deliver/perform contracts profitably
○ A ○ B ○ C ○ D ○ E ○ I

Previous Next

8 wide radio button screen example

Notes on the screen format:

1. Up to 20 “subquestions” are allowed per screen (example shows 5)
2. The table of responses should be “very short”. Short is subjective; since the font used is mixed pitch, and screen sizes may differ, we can’t give a specific character count.
3. The horizontal size of EVERY response choice will be as long as the longest response choice in the table. (This is Notes behavior).
4. If the lengths of the response choices are “too long” then horizontal scrolling will be necessary to access all of the response choices. (This is Notes behavior).
5. There will be no more than 8 responses across on any line (Notes fixed upper limit for this type of control is 8). If more than 8 response choices are in the table, then multiple rows will be used.
6. If Notes adds more rows to show all the response choices, the choices will be enumerated top to bottom, then left to right, e.g.

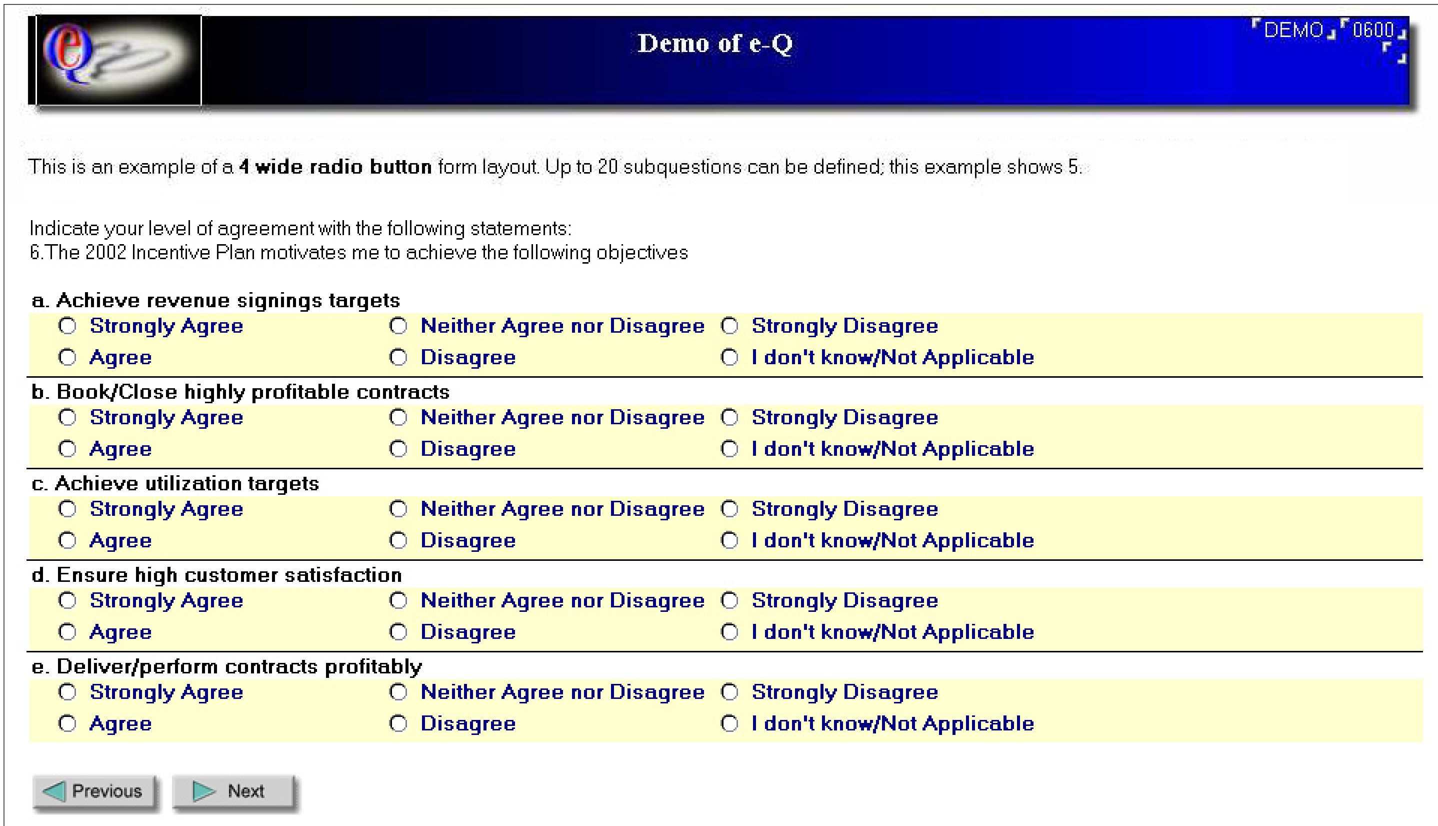
1	3	5	7	9	11	13	15
2	4	6	8	10	12	14	16

This may cause fewer than 8 columns to be used. For example, if there were

10 possible response values, then 5 columns would be used. (This is Notes behavior).

7. Each subquestion may have its own table of response choices (i.e. the tables do not have to all be the same). Each set of responses is formatted and sized independently by the size of the responses used in that particular subquestions table.
8. The **8-wide check box** format behaves exactly the same as this radio button format, except that the controls are square boxes with X's for selections, and the user can select more than one choice.

4-wide formats



4 wide radio button screen example

The size of the responses in the example are based on the width of the "Neither agree nor disagree choice", which happens to be the same width as the "I don't know..." choice.

Notes on the screen format:

1. Up to 20 "subquestions" are allowed per screen (example shows 5)
2. The table of responses should be "short". Short is subjective; since the font used is mixed pitch, and screen sizes may differ, we can't give a specific character count.
3. The horizontal size of EVERY response choice will be as long as the longest response choice in the table. In the example above, the width is set to accommodate the "Neither Agree or Disagree" choice, which is the widest text (actually, it's a tie with the "I Don't Know…" response. (This is Notes behavior).
4. If the lengths of the response choices are "too long" then horizontal scrolling will be necessary to access all of the response choices. (This is Notes behavior).
5. There will be no more than 4 responses across on any line (Notes fixed upper limit for this type of control is 8). If more than 4 response choices are in the table, then multiple rows will be used, as in the example.
6. If Notes adds more rows to show all the response choices, the choices will be

enumerated top to bottom, then left to right, e.g.

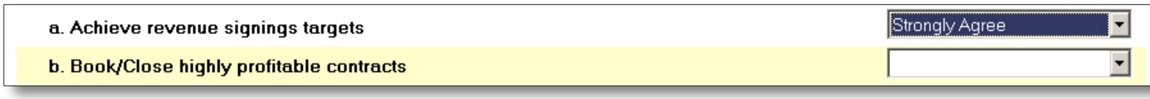
1	3	5	7
2	4	6	8

This may cause fewer than 4 columns to be used, as in the example shown; the six choices result in 3 apparent columns. (This is Notes behavior).

7. Each subquestion may have its own table of response choices (i.e. the tables do not have to all be the same). Each set of responses is formatted and sized independently by the size of the responses used in that particular subquestions table.
8. The **4-wide check box** format behaves exactly the same as this radio button format, except that the controls are square boxes with X's for selections, and the user can select more than one choice.

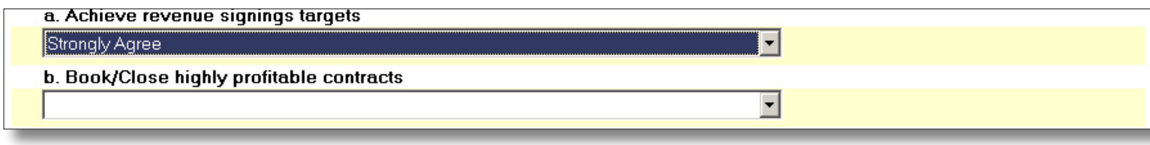
1-wide formats

1 wide Listbox Horizontal notes



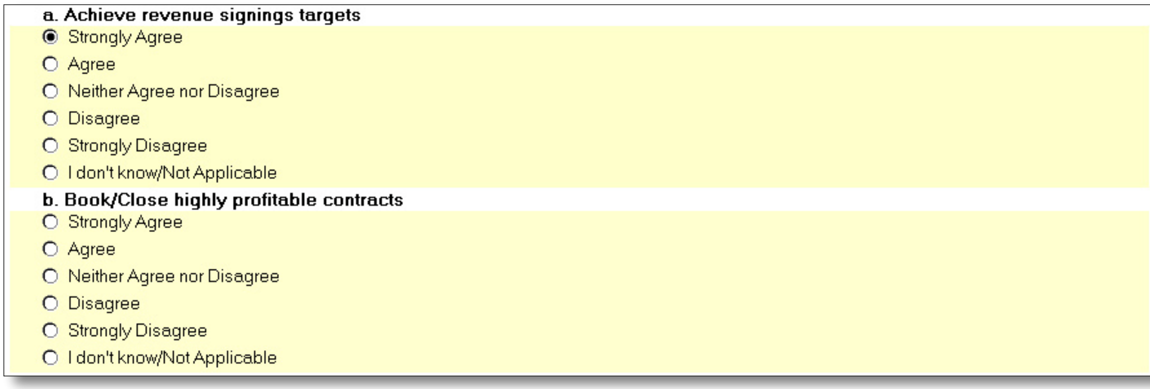
- This panel looks the same as the current Multiple Response or WYSIWYG format screen.
- The number of subquestions is raised to 20 from the current 10 or 15.
- The responses are chosen from a listbox, and the listbox is positioned horizontally to the right of the subquestion text.
- Notes listbox controls have width that is fixed at design. The width of the listbox will be reduced from the current 3” interface size, to 2”. This implies that the intent is for this format to be used with somewhat short response choices.
- The expansion icon will no longer be used. Ensure that all of your table text fits in the listbox interface.

1 wide Listbox Vertical notes



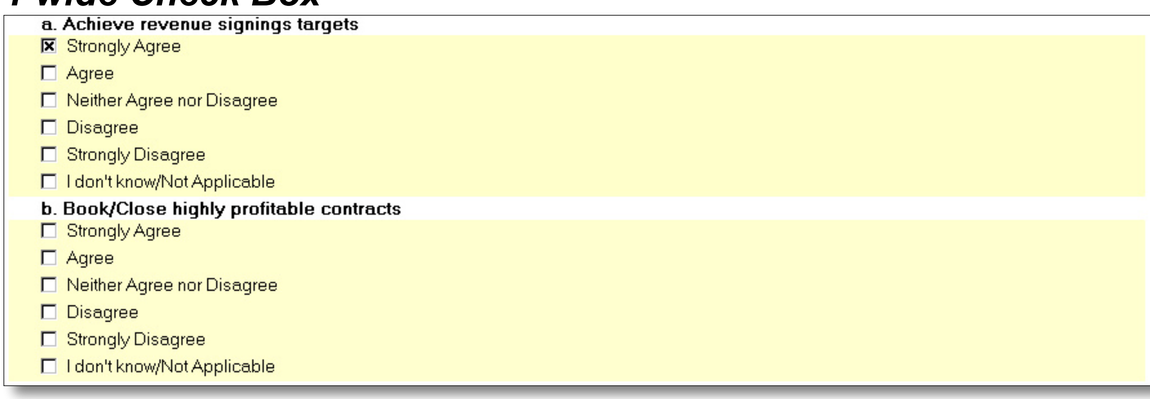
- This panel looks similar to the Phase 1 Single Response – Listbox interface.
- Up to 20 subquestions are allowed. To present the equivalent of the old Single Response question, just use one subquestion. The subquestion text may be left blank, i.e. the entire descriptive text is embodied in the rich question text above.
- The responses are chosen from a listbox positioned below the subquestion.
- Notes listbox controls have width that is fixed at design. The width of the listbox will be a 6” interface size. This is approximately 2/3 the width of an 1024x768 screen, and should still fit on an 800x600 screen. This format should be used when the tables that contain the response choices have too many entries to make the use of the radio button or check box interfaces practical without a lot of vertical scrolling, especially when there are multiple subquestions on the panel.
- The expansion icon will no longer be used. Ensure that all of your table text fits in the listbox interface.

1 wide Radio Button



- This panel looks similar to the current Single Response – Radio button interface.
- Only one selection can be made (standard Notes radio button behavior).
- Up to 20 subquestions are allowed. To present the equivalent of the old Single Response question, just use one subquestion. The subquestion text may be left blank, i.e. the entire descriptive text is embodied in the rich question text above.
- The responses are chosen from a sequence of radio buttons positioned below the subquestion.
- The radio button control will be forced to 1 column wide, so the response text may be as wide as needed; however, if it is wider than the user's screen horizontal scrolling may be necessary to read the rightmost part of it, i.e. Notes cannot wrap list items.

1 wide Check Box

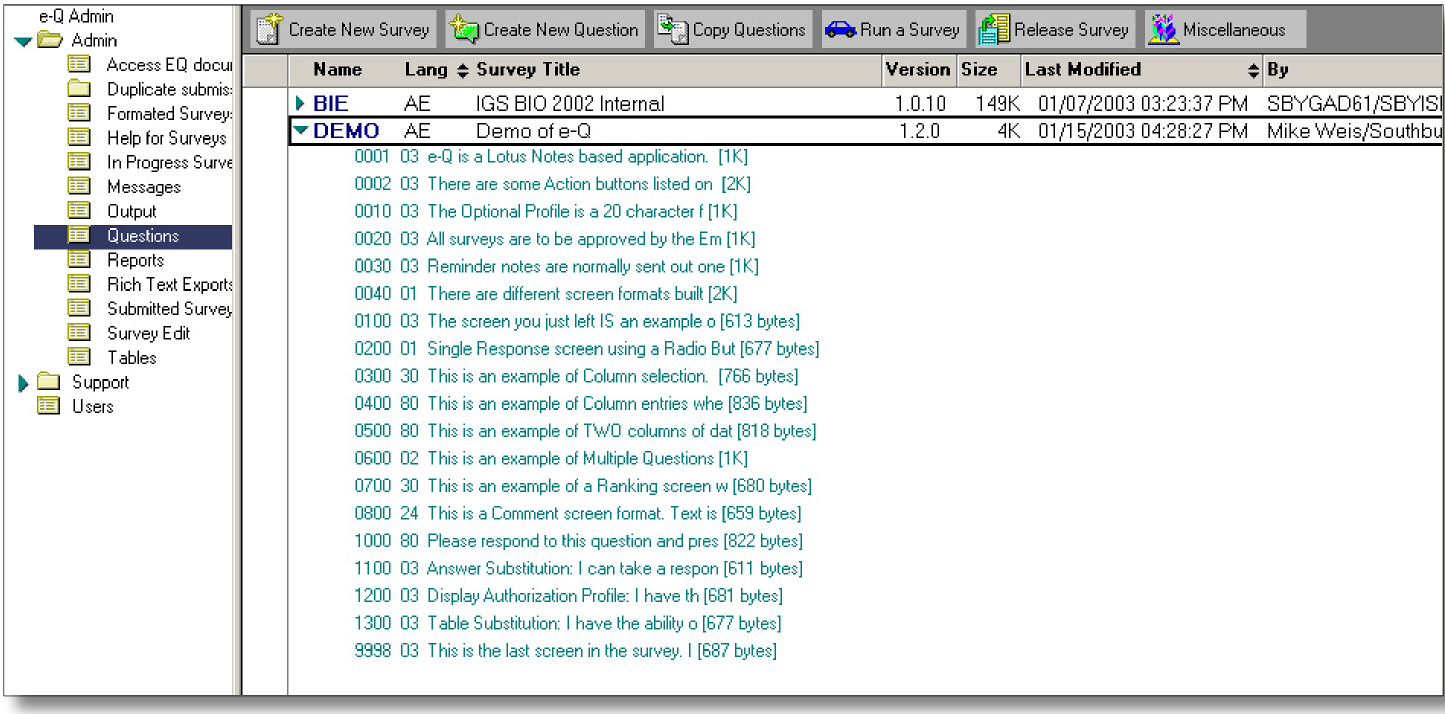


- This panel looks similar to the current Column Selection interface.
- Multiple selections can be made (standard Notes check box behavior). Selection minimum and maximum is enforced by verification code.
- Up to 20 subquestions are allowed. To present the equivalent of the Column Selection question format, just use one subquestion. The subquestion text may be left blank, i.e. the entire descriptive text is embodied in the rich question text above.
- The responses are chosen from a sequence of check boxes positioned below the subquestion.

- The check box control will be forced to 1 column wide, so the response text may be as wide as needed; however, if it is wider than the user's screen horizontal scrolling may be necessary to read the rightmost part of it, i.e. Notes cannot wrap list items.

Question Maintenance

The Questions View



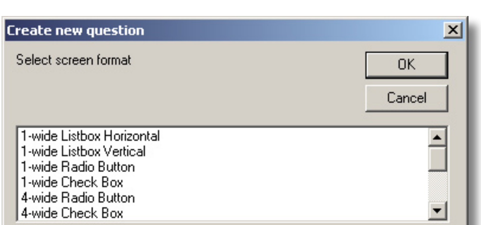
The Questions View

The Questions view is where survey and question maintenance is performed. From this view you can select any survey questions and open and edit them. The appearance of the different question formats when opened by an administrator for editing will be shown later in this document.

Like any other Notes documents, question documents can be selected (singularly or in multiples using the familiar checkmarking operation), deleted, copied and pasted from this view. Using the standard Notes copy and paste operation will result in identical duplicate questions, including the question sequence number. This can be subsequently edited to ensure uniqueness. However, it may be beneficial to use the proposed to Copy Questions action button to facilitate copying part or all of a survey, to the same or a different survey.

Description of the action buttons:

Create new survey: This will initiate the creation of a new Survey control document.



Create new question: This will initiate a small dialog box containing a list of possible question formats. Choose one, and then a maintenance session will be started on that question format.

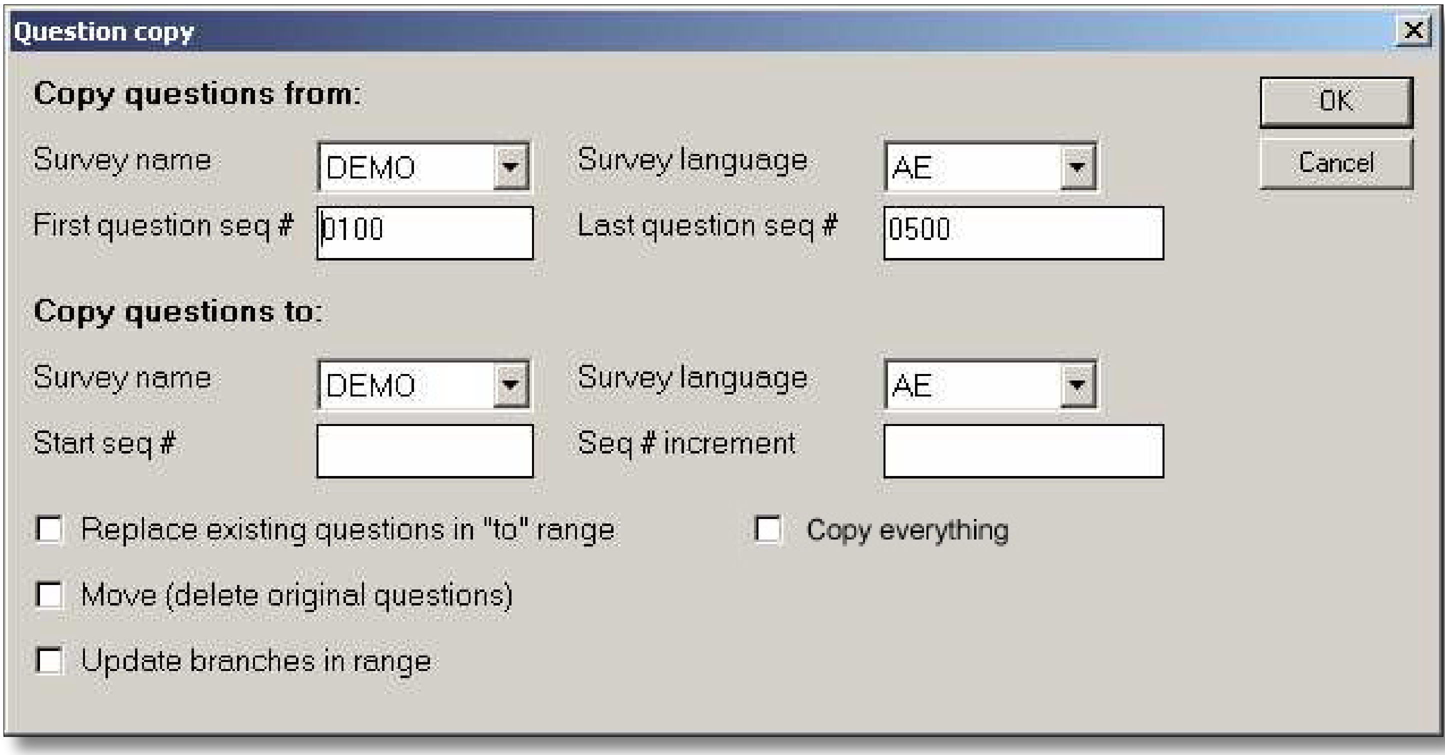
Copy questions: This will initiate a dialog that allows copying of the selected question documents, modifying each one according to a set of criteria specified in the dialog.

Run a survey: same function as in the current eQ release.

Release survey: this function is similar to the current “Copy survey” function, in that it will copy the selected survey, including all questions, table data and help to a target database specified in a dialog. The survey is “compiled” into its end-user run-only format in this process. The intent is to make the survey available to the test or production (eqstage) environment with this action.

Miscellaneous: generally the same functions as in the current eQ release. Note that Decompose will no longer be used, as all surveys are maintained and released in a decomposed state.

Copy Questions action and dialog



Copy Questions action and dialog

Use the copy questions action button to copy or move a range of questions into another survey, or into another range in the current survey.

The “copy from” section of the dialog will be filled in with information from the currently selected set of questions, if any.

Survey name: select the name of the survey to copy the questions from. The survey must exist and have questions available for copying (ie it cannot be just a control record).

Survey language: select the language of the survey to copy the questions from. A survey of this name and language must exist in the database, and have questions.

First question seq #: enter the sequence number of the first question to be copied.

Last question seq #: enter the sequence number of the last question to be copied.

All fields in the “copy to” section are required.

Survey name: select the name(s) of the survey to copy the questions to. The survey must exist (i.e. have at least a saved control information document in the eQ Admin database). This may be the same as the “copy from” survey.

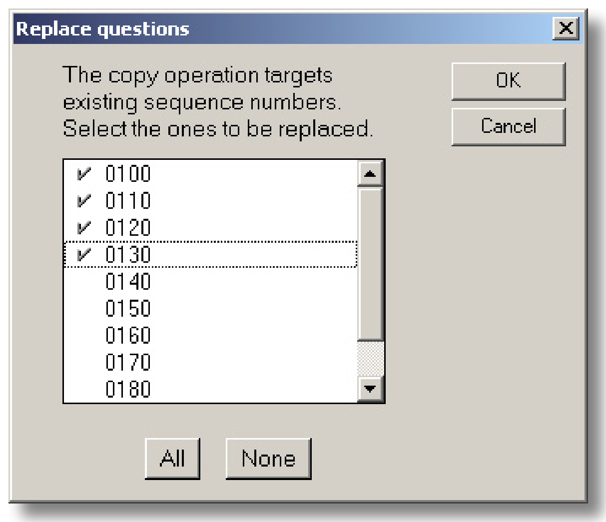
Survey language: select the language(s) of the survey to copy the questions to. A survey of this language must exist ((i.e. have at least a saved control information document in the eQ Admin database) unless the "Copy everything" option is used, in which case the survey control for the source survey will be used as the basis for the target survey(s). When the Copy everything option is not used, this field may be the same as the "copy from" survey.

Start seq #: enter the sequence number to be given to the first question copied.

Seq # increment: enter the increment to use to number successive copied questions. Entering **0** will preserve the relative increments of the "copy from" questions.

Options that affect copying:

Replace existing questions in "to" range: if this option is selected and a question already exists at a sequence number chosen as the target of a copy, then that original question will be deleted and replaced with the copied question without any further prompting. If this option is not selected, then a dialog box listing the questions that would be replaced is displayed (see example). Select the sequence numbers that should be replaced from the scrolling list. You can quickly select the entire list by using the "All" button, or deselect the entire list by using the "None" button. Pressing the OK button will perform the copy operation, replacing the selected sequence numbers. For sequence numbers that are not selected for replacement, the corresponding "from" sequence number will not be copied. Press the Cancel button to abandon the copy operation completely.

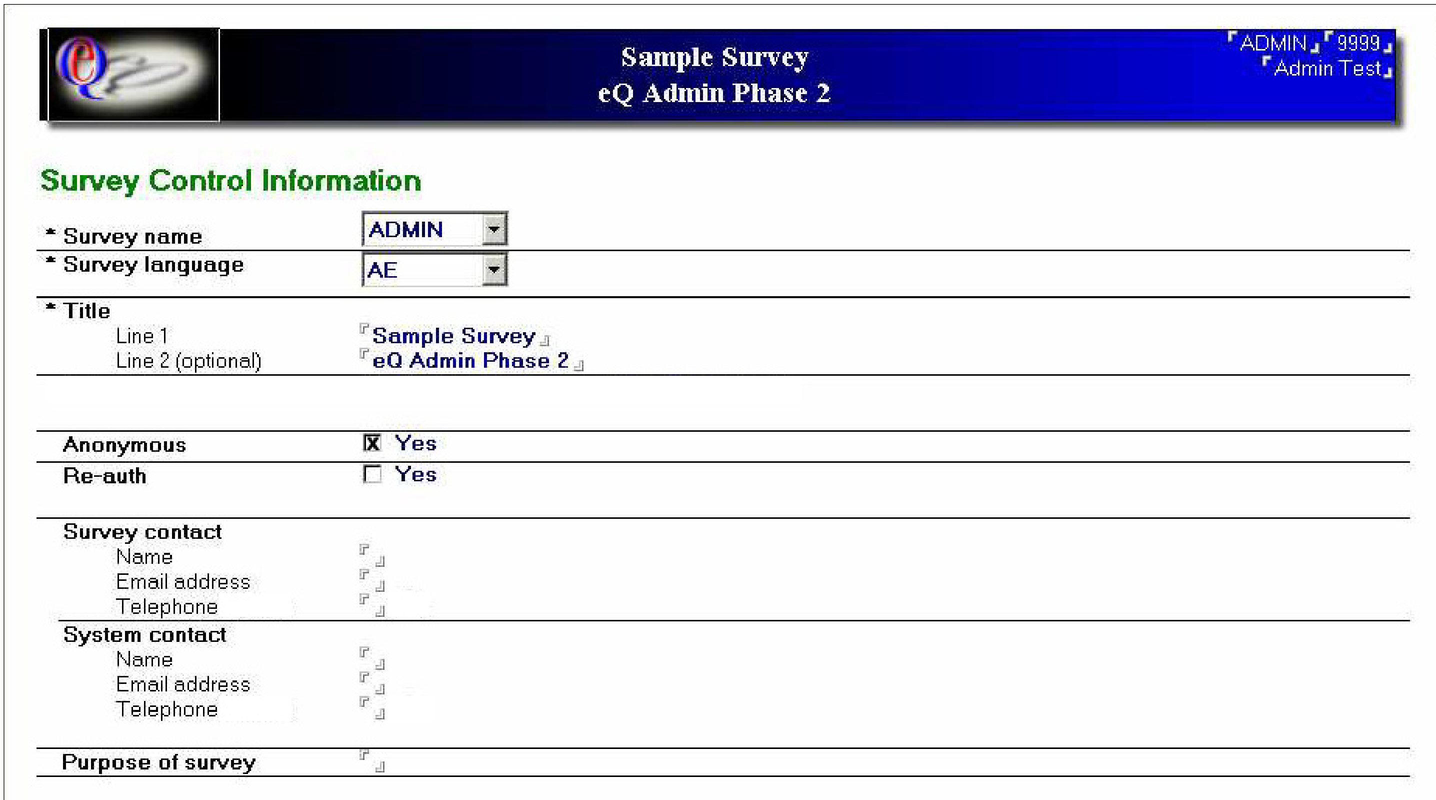


Move (delete original questions): if this option is selected, then after a successful copy, the original "from" questions will be deleted. If a question was not copied due to the replace option being turned off, then it will not be deleted from its original place.

Update branches in range: if this option is selected and any of the questions contain branch references to another question sequence number in the range of "from" questions being copied, it will automatically be updated to reflect the sequence number of the "to" question. Branch references outside of the "from" range will never be updated.

Copy everything: this option will cause the entire survey, including all questions, associated table entries, and help texts, to be copied to the target survey and language. When this option is chosen, only the source survey name, source language, target survey name(s), and target survey language(s) need to be specified; all the sequence number specifications are ignored. Because the target survey name and language are allowed to be multiple values, this operation can create many copies of an entire survey. The “Replace” and “Move” options can also be specified. “Update branches” is ignored.

Survey Control Information



Survey Control Information panel example

The survey control information panel is used to store the information previously associated with the OSS “9999” survey definition panel. An eQ survey control panel can be initiated with the “Create new survey” action, or by making a copy of an existing survey control document and editing it to reflect the new survey.

The data entered here is associated with the main survey entry in the Questions view, not with any separate 9999 question entry. In other words, no 9999 entry will exist in the Questions view. If you want to copy the information from the Survey Control Information panel to another survey, duplicate the main survey control document, then edit the copy, changing its survey name or language, and any other information of interest.

There is no longer any 9999 question.

Fields on this panel:

Survey Name: Enter the survey name here. The name is limited to 8 characters, and will be uppercased. This is a required field. This value is also reflected in the upper right corner of the survey banner.

Survey Language: Select the survey language code from the list. This is a required field.

Title: Enter one or two lines of survey title here. These fields are also reflected in the center of the survey banner. The first title line is required; the second is optional.

Classification: Select the IBM classification level. The default is “unclassified”. [In OSS, the “Classification” field was used as the second line of the title. That is no longer the case, see “Title” above].

Anonymous: Check the box if the survey responses are to be designated as anonymous. (the default is to maintain anonymous responses).

Re-auth: Check the box if survey re-authorization is to be permitted.

Survey Contact: Enter the information about the survey sponsor or contact. This information appears in the survey help document.

System Contact: Enter the information about the eQ system sponsor or contact. This information appears in the survey help document.

Purpose of survey: Enter a short description of the survey’s purpose. This information appears in the survey help document.

Fields from the corresponding OSS “9999” panel that are no longer used:

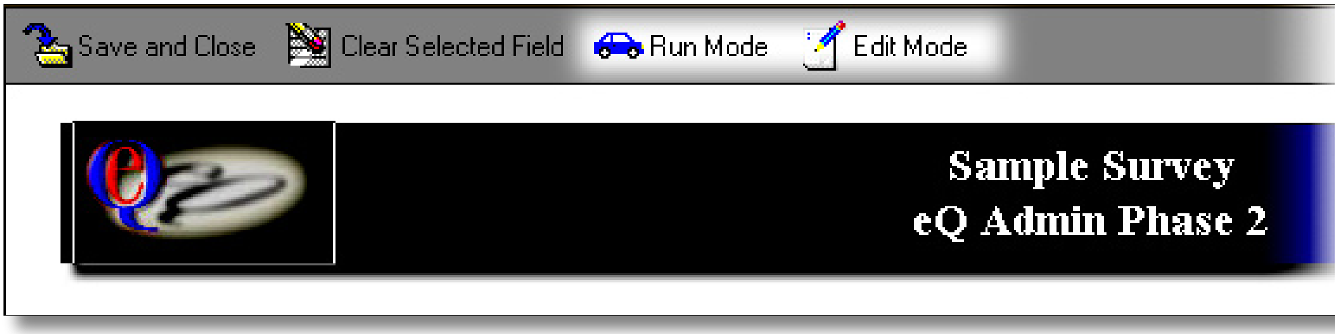
Access Code: survey definitions no longer have individual access authorization. If an restricted survey access is necessary, it can be accomplished by isolating the survey definition in a separate copy of the eQ Admin database.

Status: survey release status is no longer controlled by a flag as it was in OSS. “Hold” and “Test” mode are represented by the presence of a survey in development in the eQ admin database. “Production” mode is represented by using the eQ admin database “Release survey” action which compiles the survey into its end-user executable form and copies it to the test or production environment. The latter function is available from the Questions view.

Default Branch Sequence: There is no special handling of end user quit requests in eQ.

Backward Branch: not used in eQ.

Edit mode vs. Run mode



Run mode vs. Edit mode

When the administrator opens a question in the eQ Admin database, an additional button appears in the form action bar. The button is labeled either **Run mode** or **Edit mode**. (The example above shows both of the buttons for illustration, normally only one or the other will appear).

When editing a question, the Run mode button will appear. Pressing it will switch the question session to run mode, which is what the end-user would see. In run mode the following changes occur:

- You are no longer in edit mode for the question text
- Table content, if available, is displayed, rather than the input field to select a table by name.
- The maintenance section (below the blue line) is hidden.
- The Run mode button is replaced by the Edit mode button
- Next and previous buttons work as in an end-user session, i.e. branching is performed, but navigation only shows non-branching panels. In Edit mode, Next and Previous are always linear and navigate into branching maintenance panels.
- The ability to switch question formats is not available in Run mode. Switch back to edit mode to use that feature.

The administrator can verify the screen presentation in Run mode. When satisfied, press the Edit mode button to return to administrator maintenance mode.

There are certain limitations to Run mode, in particular regarding table resolution, navigation and performance. This mode is intended to be a quick verification mode and not a substitute for more rigorous testing under the Run a Survey mode available from the Questions view.

Instruction Format Maintenance

Demo of e-Q 2 DEMO 0001 INTRODUCTION

e-Q is a Lotus Notes based application.

Access is strictly controlled by an Invitation/Reminder note. If you Forward your invitation note to another ID which you own or to other employees, they will NOT be able to participate. Security has been put in place so that **ONLY the IDs to which the original Invitation/Reminder note was sent**, by the e-Q Administrator, will be able to participate, if they have not already completed the survey.

1

You must have **Lotus Notes 5 or above** to be able to access e-Q. Once an invitation note is received, you may press the "Access e-Q" button on the bottom of the note and a few things will occur:

1. If this is the first time you are accessing the server, you may be asked if you want to create a *Cross Certification Certificate* . Do so.
2. Depending on your ECL (Execution Control List) security settings in Lotus Notes (File > Preferences > UserID > Security Options) you may be requested to Trust Signer one or more times before continuing. Invitation/Reminder notes will be sent from the **e-Q Administrator** ID.
3. You will then be prompted whether or not you want to create a Local copy of the survey database (Replicate) or run off the server. If you replicate, you will be able to disconnect from the LAN or dial-up connection and take the survey. You MUST remember to Replicate your mail back to the server before the Expiration date of the survey so your responses can be stored.
4. An icon will be created on your workstation but you cannot access the survey from it. You **MUST** use the Invitation/Reminder note to do so.

e-Q can, if required, include a URL to which the respondent

http://w3.ibm.com **XXX**

3

Next

Basic maintenance

4

Blank response	☐ Select if blanks responses allowed
Actions available 5	☒ Next ☐ Previous ☐ Comments
Question help rich text	This is a *demo* survey, for illustration purposes only. 9
Substitution Reference 6	◉ Question ○ Profile

Seq #	0100
Range	◉ Single response ○ Entire column ○ Entire row
Association	◉ Row on screen ○ Index in table ○ Variable in table
Scope	◉ Specific value ○ Sum of values
Row	1
Column	1
Tag	Geography
Use	◉ Variable ○ Description ○ Lookup in table
Lookup Table	

Simple branching 7

	relationship to	value or table name	then branch to
if any response is	=	8	
if any response is	=		
if any response is	=		
if any response is	=		
if any response is	=		

Instruction format maintenance

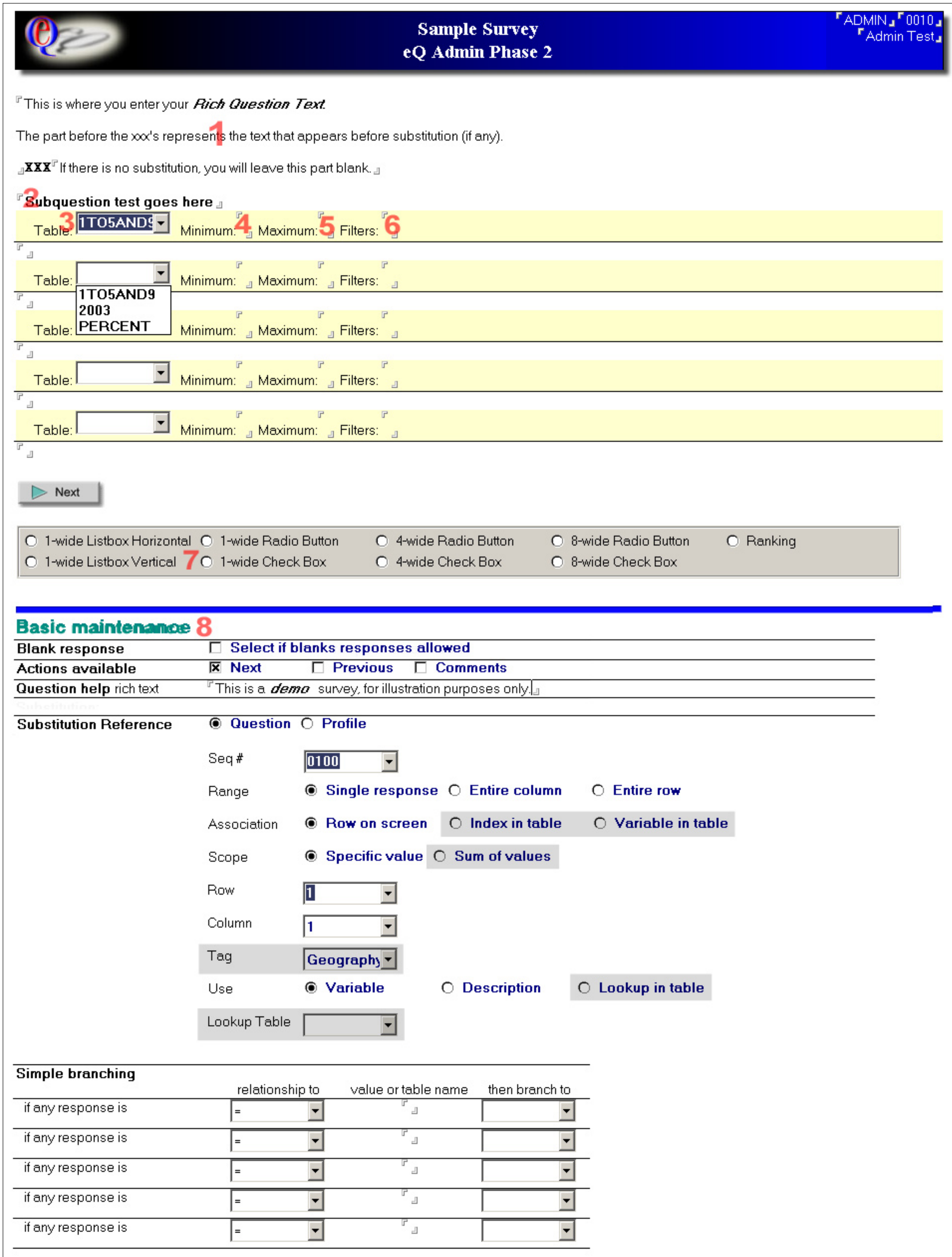
The maintenance section of an instruction format question is the most basic maintenance layout available. The description of the basic maintenance features will be discussed here and not repeated in subsequent sections describing other question formats.

The numbered paragraphs of these notes correspond to the red numbers overlaying the preceding figure.

Administrator notes:

1. The rich text is directly editable in the session.
2. The survey name and sequence number in the upper right corner is pre-filled, but is also editable. The panel description field is also directly editable.
3. The placeholder for substitution (XXX) is always shown in edit mode, although the text itself is not editable. The rich text field after the substitution is also always available. When run without substitution, these fields become blank and therefore invisible.
4. The maintenance section is separated by the thick blue line.
5. Choosing actions will expose the corresponding buttons/entry fields on the edit preview.
6. The Substitution reference section is a subset of the kinds of references that can be made in a Branching maintenance screen. See the section on Branching maintenance for a description of the fields in this section. The referenced response or profile data will be substituted into the question text taking the place of the XXX. There is one option that is unique to this substitution reference section: For "Profile" reference type, there is a Use option "Lookup in table", which allow you to specify the name of a table in the Table Lookup field (This is the only case where the table lookup maintenance field is available). At run time, the referenced profile tag will be accessed and used to match a variable in the designated table, and the table description will used as the substitution text.
7. The example shows 5 simple branching settings. Simple branching is enabled when there is a value specified in the "variable or table name" column.
8. The choices available in the "relationship to" dropdown are:
   - =
   - !=
   - <
   - <=
   - >
   - >=
   - is in table
   - is not in table

   The last two choices allow you to specify a table name in the "value or table name" field, and the comparison will succeed if the response is (or is not) a table entry.
9. Question help text is entered in the maintenance section for the question, not in a separate help document. This is a rich text field.



Sample Survey
eQ Admin Phase 2
ADMIN 0010
Admin Test
This is where you enter your Rich Question Text.
The part before the xxx's represents the text that appears before substitution (if any).
XXX If there is no substitution, you will leave this part blank.
Subquestion test goes here
Table: 1TO5AND9 Minimum: Maximum: Filters:
Table: Minimum: Maximum: Filters:
1TO5AND9
2003
PERCENT
Table: Minimum: Maximum: Filters:
Table: Minimum: Maximum: Filters:
Table: Minimum: Maximum: Filters:
Next
1-wide Listbox Horizontal
1-wide Radio Button
4-wide Radio Button
8-wide Radio Button
Ranking
1-wide Listbox Vertical
1-wide Check Box
4-wide Check Box
8-wide Check Box
1
2
3
4
5
6
7
8
Basic maintenance
Blank response
Select if blanks responses allowed
Actions available
Next
Previous
Comments
Question help rich text
This is a demo survey, for illustration purposes only.
Substitution Reference
Question
Profile
Seq #
0100
Range
Single response
Entire column
Entire row
Association
Row on screen
Index in table
Variable in table
Scope
Specific value
Sum of values
Row
1
Column
1
Tag
Geography
Use
Variable
Description
Lookup in table
Lookup Table
Simple branching
relationship to
value or table name
then branch to
if any response is
=
if any response is
=
if any response is
=
if any response is
=
if any response is
=

Basic Question Maintenance

The above layout is the same for all of the basic multiple question formats, including:

- 8 wide Radio Button
- 8 wide Check Box
- 4 wide Radio Button
- 4 wide Check Box
- 1 wide List Box Vertical
- 1 wide List Box Horizontal
- 1 wide Radio Button
- 1 wide Check Box
- Ranking

An indication of what type of question you are currently editing appears in the Question format selector. Also, when you switch to Run mode, the question will take on the appearance of the actual format.

For brevity, the sample screen layout above only shows 5 subquestions. The actual implementation will include 20 such entry areas.

Administrator's notes:

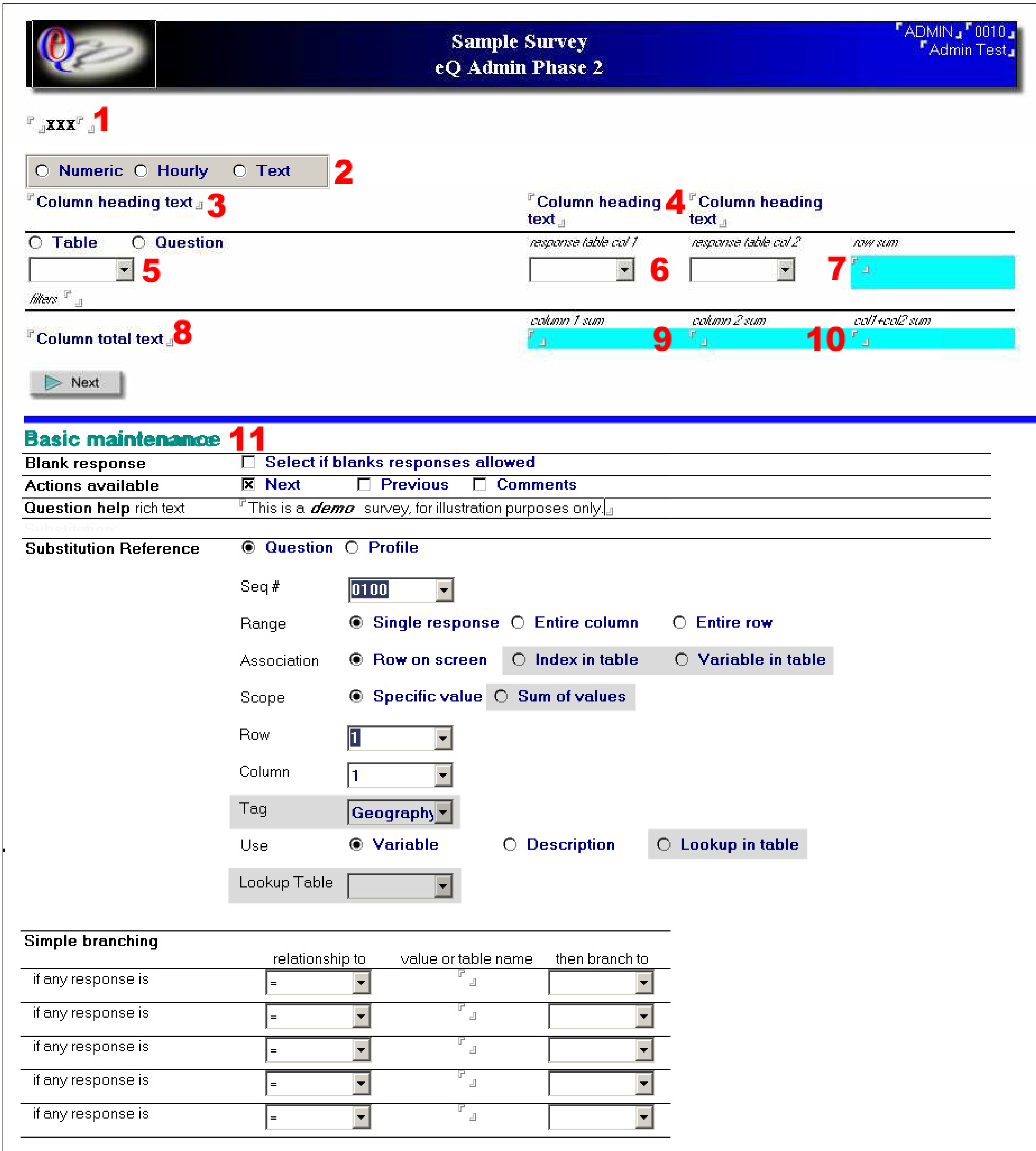
The numbered paragraphs of these notes correspond to the red numbers overlaying the preceding figure.

1. Enter text in the main input fields under the eQ banner. This is the same as for the Instruction format. The substitution allowance (XXX) always appears; only use the 2nd rich text input area after that if substitution is going to be used.
2. Enter each subquestion in the table as shown. This is rendered in Notes "Default Sans" font bold text, not rich text. Subquestion text can wrap lines.
3. Select a table to provide the responses that the user will choose from. The presence of a selection here drives whether the user sees this subquestion, regardless of whether subquestion text is entered above it. You may choose from the list of tables defined so far in the database, or enter a name freehand. If you enter a non-existent table, a null table will result when you switch to run mode. Table entries can not wrap lines and will be truncated if they are too long for the control (verify this using Run mode). The 1-wide Radio and Checkbox formats will display the full width of table entries, however horizontal scrolling may be necessary to view long entries.
4. Enter the minimum number of responses that a user is allowed to choose. This field will not appear when the question mode uses a Radio Button control.
5. Enter the maximum number of responses that a user is allowed to choose. This field will not appear when the question mode uses a Radio Button control.
6. Enter any filter characters that should be used to subset the table presented to the user.
7. Question format selector: choose the layout of the question here. You can change the layout and preview the results in Run mode.
   Note on Ranking format: The ranking format maintenance appears just

like other basic question maintenance. The ranking format is limited to **five** subquestions per question definition, rather than the normal 20.

8. The Basic Maintenance section is the same as for the Instruction format.

Two- and Three-Column Maintenance



Two- and Three-column format maintenance

When you select a question format of Two-Column or Three-column, you will be presented with the above maintenance document layout.

Administrator notes:

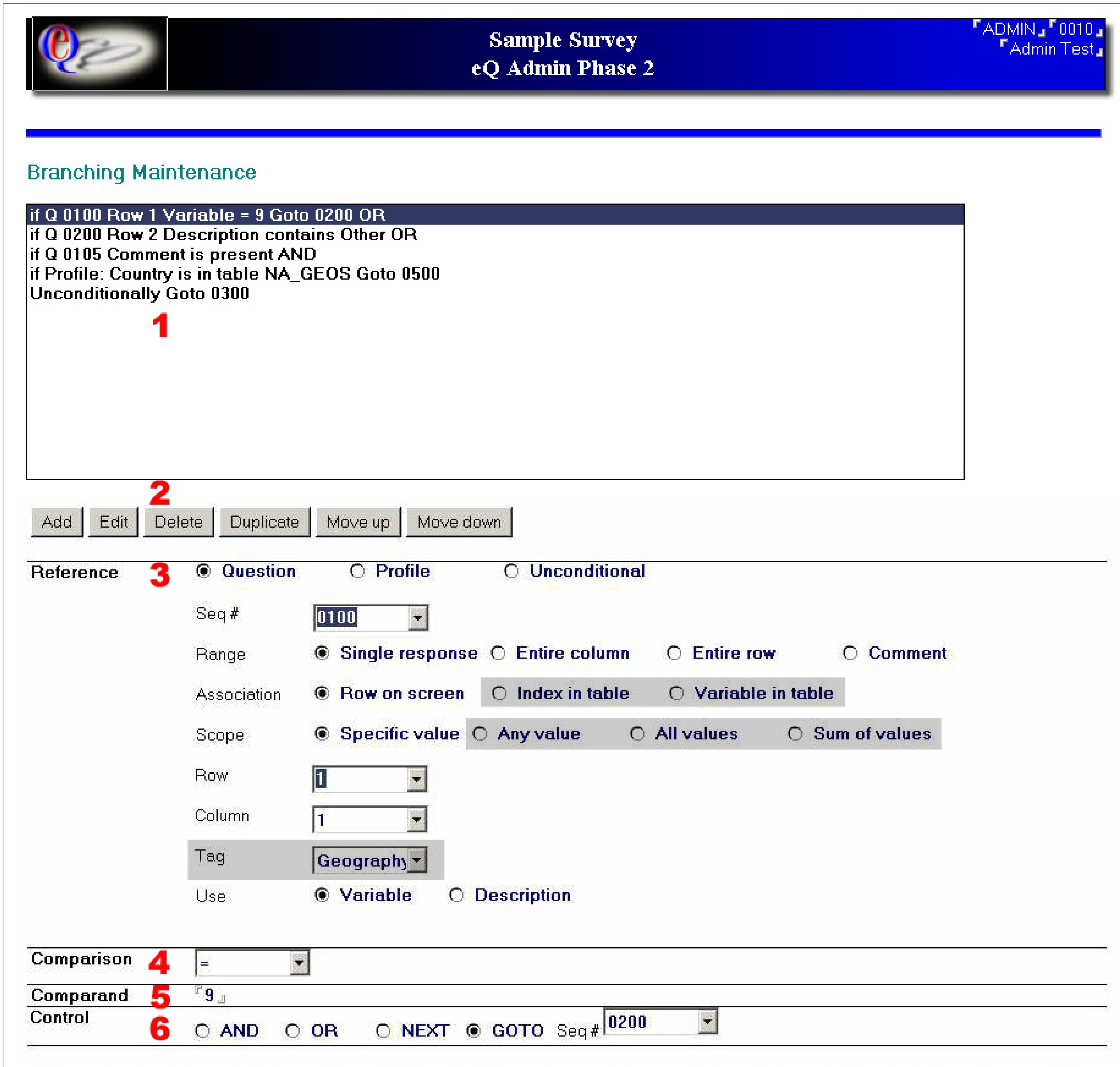
The numbered paragraphs of these notes correspond to the red numbers overlaying the preceding figure.

1. Enter the rich text overall question text, accounting for possible substitution, as usual.
2. Select the type of user response data to be collected: **Numeric** for numeric data, **Hourly** for time data (HH:MM format), **Text** for general text format.
3. Enter the column heading for the table that is to be displayed in the leftmost column. A blank form will default to "Column heading text". If this default is left untouched, or blanked out, no column heading will be displayed in the resulting run-time layout.
4. Likewise enter column headings for the response column(s). If this is a Three-column format, there will be two such response columns. The default "Column heading text" will be replaced by a blank if not changed.
5. Specify the origin of the table data to be used for the leftmost column.
   - Choose the **Table** radio button if the data is to be displayed from a table.
   - Choose the **Question** radio button if the data is to be displayed from a previous question response
   - Select or enter the table name or question number in the drop down box below the Table/Question radio button. If Question was selected for the origin type, an additional field appears to allow the specification of the subquestion (row) from the originating question.
   - In the filter field, enter any filter strings to be used to subset the table or question origin data. Filters can be multi-character. Separate multiple filter strings with either commas (,) or semicolons (;).
6. For each response column, enter the table from which user responses are chosen.
7. For Three-column format of Numeric response type only, specify a target row sum in the field to the right of the response columns (this column does not appear on the run-time layout). User responses will be required to sum to this value on each row during run-time. Leave it blank if no row sum is to be enforced.
8. Enter the text to describe the column totals line. The default is "Column totals text"; if this is not changed or blanked out then no text will appear in the run-time layout.

Hourly sums may be expressed in HH:MM format.

9. For Numeric or Hourly response types, enter a target sum value for each of the response columns. User input will be required to total to the indicated sum. Leave the respective field blank if no column sum is to be enforced.
10. For Three-column format of Numeric or Hourly response type only, enter a target overall sum value for the entire table of responses. Leave the field blank if no overall sum is to be enforced.
11. The remainder of the form is general maintenance, discussed earlier under Instruction format maintenance.

Branching Control Maintenance



Branching maintenance

Administrator notes:

1. This large area is a summary of the branching statements entered so far. Each branching clause is expressed in an English-like fashion. The administrator selects clauses from this list, and operates on those clauses using the buttons in (2) and

The numbered paragraphs of these notes correspond to the red numbers overlaying the preceding figure.

There is no planned implementation limit for the number of branching clauses on a single branching control panel.

the input fields that follow them. This summary display is not directly editable.

2. The buttons are used to modify the branching instruction clauses.
   - **Add** adds a new branch clause into the summary list at the position selected before the button is pressed.
   - **Edit** copies the selected clause into the editable fields below so that it can be modified.
   - **Delete** removes the selected entry from the list.
   - **Duplicate** creates an identical copy of the selected clause. The resulting copy is selected, and can be edited by using the edit button, or repositioned by using the move buttons.
   - **Move up** reorders the list, moving the selected item towards the top of the list. The clauses do not wrap around.
   - **Move down** reorders the list, moving the selected item towards the bottom of the list. The clauses do not wrap around.
3. The **Reference** section describes the data that a branch clause is to refer to. The rest of the input fields in this section change depending on the selection of the first input field and possibly other factors. The example above shows the Question reference corresponding to the selected summary entry. The input fields shown in the grey areas would not normally appear with this combination of selections, but are shown here for completeness. The available reference types are:
   - **Question** refers to the user's response to a particular question.
   - **Profile** refers to some characteristic of a user's profile information.
   - **Unconditional** represents an unconditional branch.

   The input fields that follow refine the data to be referenced.
   When the reference selection is **Question**, the input fields are:
   - **Seq #:** the sequence number of the question whose response is to be referenced. This can be picked from a list (of extant earlier sequence numbers) or typed in.
   - **Range:** indicates whether the reference is to a single value, or to a column or row of values, or to the presence or absence of a comment response to the question.
   - **Association:** when the referenced question is one of the columnar formats, the association allows three possible ways to reference a user's response to a question: by row on screen, by the index of the table associated with the row, or by the variable of the table entry associated with the row. For all other screen formats, the association is always by row on screen.
   - **Scope:** When the range is set to entire column or entire row, the scope can be any of:
     - **Any**, meaning that the clause will be true if any one of the responses in the row/column meet the criteria;
     - **All**, meaning that the clause will be true if and only if all of the responses in the row/column meet the criteria;
     - **Sum**, meaning that the row/column will be summed arithmetically and the resulting value tested by the clause.

For all other range settings, the scope defaults to the specific referenced value.
- **Row:** for non-columnar formats, or when referencing columnar format questions and the range selection is set to specific value or entire row, specify the row value for the reference here. The default is 1; this is the value that should be used for all single response question formats.
- **Column:** when referencing questions with columnar formats and the range selection is specific value or entire column, specify the column value here.
- **Use:** specify whether the response table variable or description part is to be used in the comparison. Not relevant for columnar format question references.

When the range selection is **Comment**, the input fields are:
- **Seq #:** the sequence number of a question which has a comment entry field enabled.

When the reference selection is **Profile**, the input fields are:
- **Tag:** select from a list of profile data tags (identifiers).

When the reference selection is **Unconditional**, no further reference section input is necessary.

4. The **Comparison** section is used to define the comparison operator to be used to determine whether the branch clause is true or false. There are several sets of comparison operators. Depending on what type of reference is being made, the comparison selection will contain the union of the following sets:
   - Arithmetic operators, available to all Question and Profile reference selections:
     - =
     - !=
     - <
     - <=
     - >
     - >=

     The collating sequence for characters is according to the character's ASCII value: 0 < 9 < A < Z.
   - String operators, available to all Question and Profile reference selections:
     - **contains**
     - **does not contain**
     - **begins with**
     - **does not begin with**
   - Table operators, available to all Question and Profile reference selections:
     - **is in table**
     - **is not in table**
   - Presence operators, available when the Range selection is Comment:
     - **is present**
     - **is not present**
5. The **Comparand** section is used to specify the value or criteria that the referenced data element is to be compared with to determine whether the branch clause is true or false:

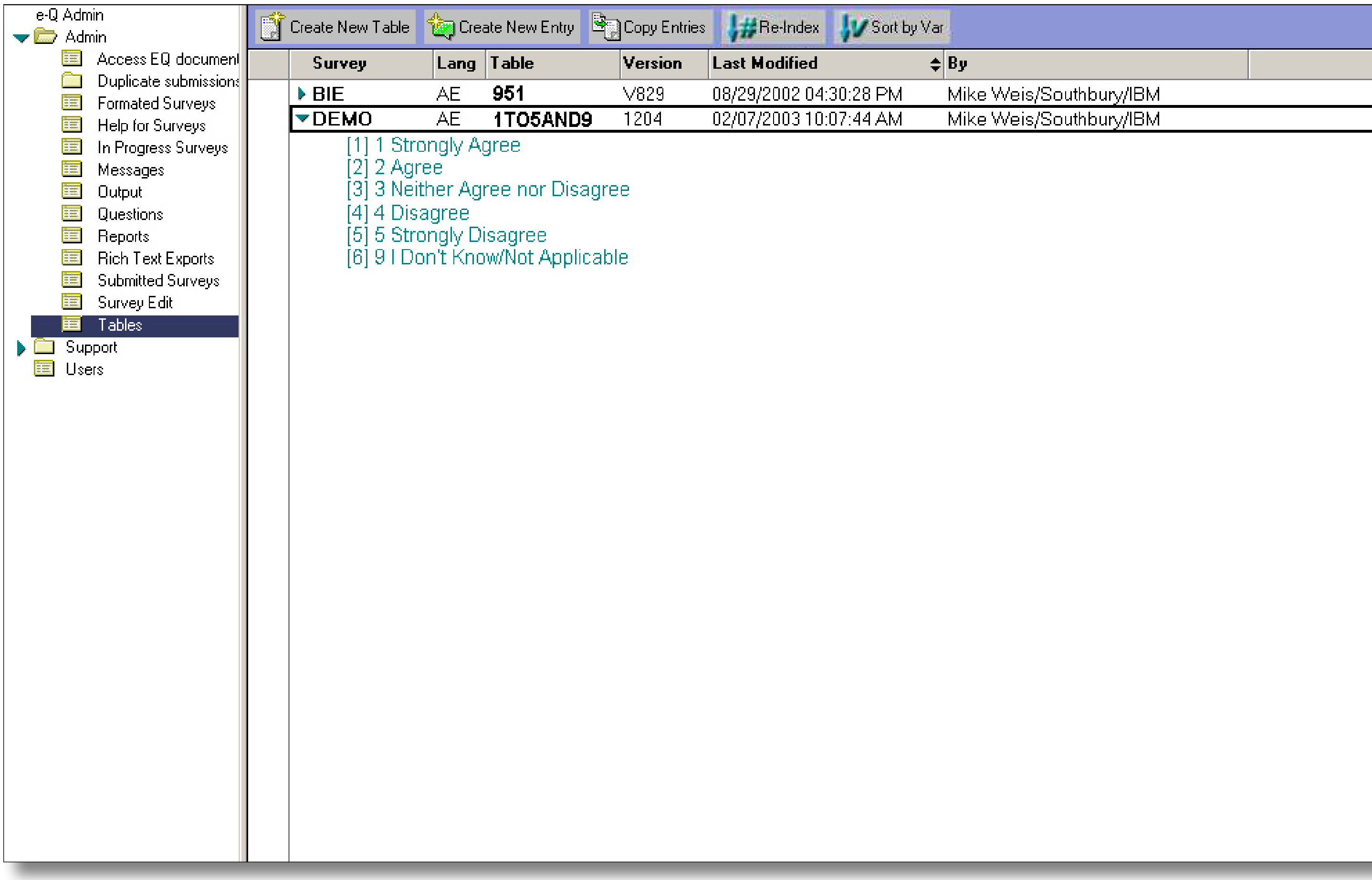
- When an arithmetic or string comparison operator is selected, the comparand represents a fixed value.
- When a table operator is selected, the comparand specifies a table whose variables are searched for the existence of the referenced data.
- When a comment presence operator is selected, no comparand is necessary.

6. The **Control** section specifies what action is to be taken when the branch clause is evaluated true. Two of the options logically connect clauses, the other two cause the sequence of questions to be changed based on the evaluation of the clause(s) so far.
   - **AND:** the next clause will be evaluated and logically AND-ed with this clause. Not available for an unconditional reference selection.
   - **OR:** the next clause will be evaluated and logically OR-ed with this clause. Not available for an unconditional reference selection.
   - **NEXT:** stop evaluating branch clauses in this maintenance panel list and branch to the next sequential panel in the survey definition. Not available for unconditional reference selection.
   - **GOTO:** branch to the specified sequence number in the survey. Select or enter the desired sequence number from the list to the right of this selection.

Unconditional clauses using AND or OR would be redundant. An unconditional branch with control NEXT would be the same as ending the branch control panel at that point - no further clauses would ever be evaluated.

Table Maintenance

The Tables View



The Tables View

The Tables view is where survey table maintenance is performed. From this view you can select any table’s header or entries and open and edit them.

Like any other Notes documents, table documents can be selected (singularly or in multiples using the familiar checkmarking operation), deleted, copied and pasted from this view. Using the standard Notes copy and paste operation will result in identical duplicate table headers or entries. These can be subsequently edited to belong to other surveys or tables. However, it may be beneficial to use the proposed Copy Entries action button to facilitate copying part or all of a table’s entries, to the same or a different table or survey.

Description of the action buttons:

Create new table: This will initiate the creation of a new Table control document.

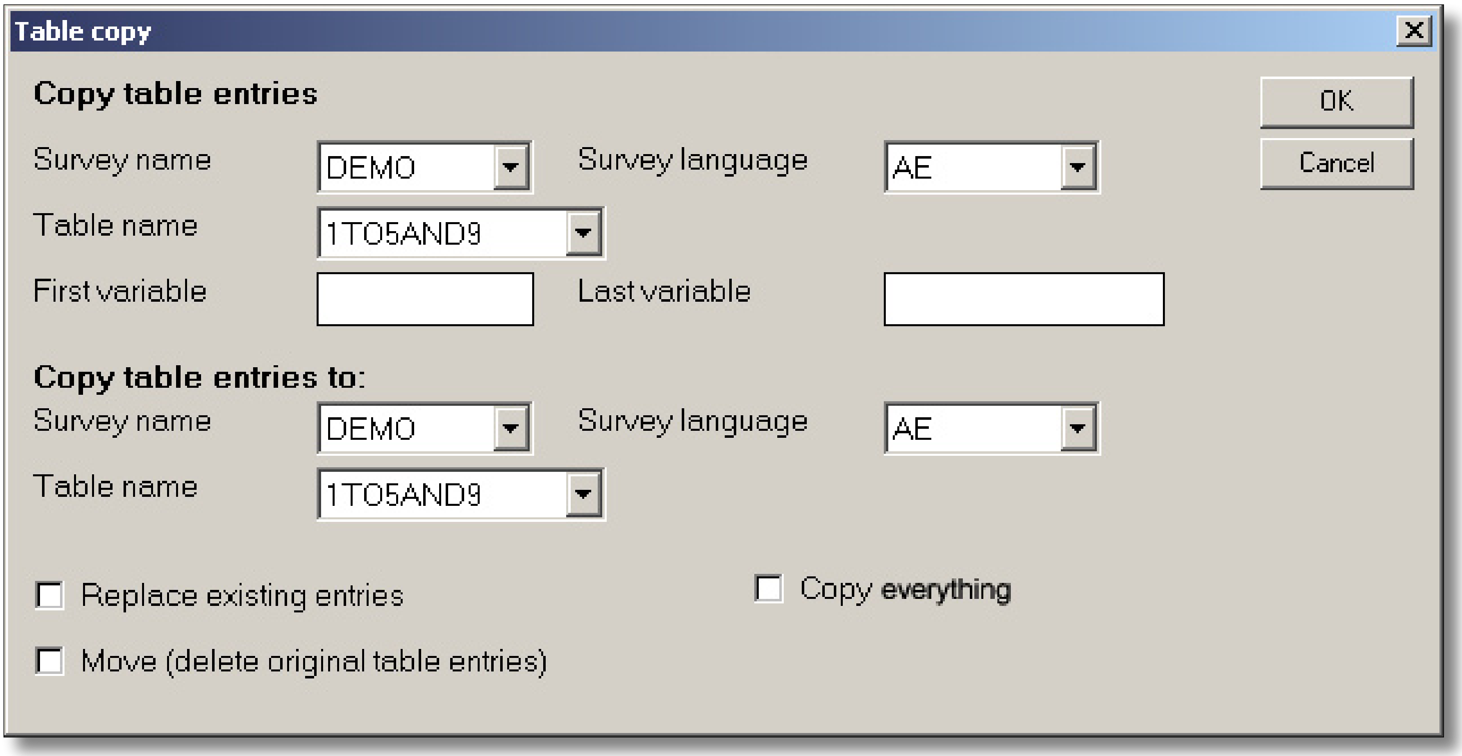
Create new entry: This will initiate the creation of a new Table entry document.

Copy entries: This will initiate a dialog that allows copying of the selected table entries, modifying each one according to a set of criteria specified in the dialog.

Re-Index: This will regenerate the index fields of the table entries to be sequential, starting with 1 for the first entry of the table. Use this when the indexes become fragmented from manual resequencing.

Sort by Var: This will reorder the table entries (i.e. update their index values) so that the table is ordered by the table variable value. You will be prompted for ascending or descending sequence.

Copy Table Entries action and dialog



Copy Table Entries action and dialog

Use the copy table entries action button to copy or move a range of table entries into another table in the same or a different survey

The "copy from" section of the dialog will be filled in with information from the currently selected set of table entries, if any.

Survey name: select the name of the survey where the source table is defined. A survey control document must exist.

Survey language: select the language of the survey where the source table is defined. A survey of this name and language must exist in the database.

Table name: select the table to copy the entries from. The table must exist associated with the survey and language defined above, and have entries (e.g. it cannot be just a control record).

First variable: enter the variable of the first table entry to be copied.

Last variable: enter the variable of the last table entry to be copied.

All fields in the "copy to" section are required.

Survey name: select the name(s) of the survey to copy the questions to. The survey must exist (i.e. have at least a saved control information document in the eQ Admin database). This may be the same as the “copy from” survey.

Survey language: select the language(s) of the survey to copy the questions to. A survey of this language must exist ((i.e. have at least a saved control information document in the eQ Admin database). This may be the same as the “copy from” survey.

Table name: select the table name(s) to receive the copied entries. A table definition document must already have been defined for the table, unless the “Copy everything” option is used. When the “Copy everything” setting is not used, this may be the same as the “copy from” table name.

Options that affect copying:

Replace existing entries: if this option is selected and a table entry already exists with a variable that is included as the source of a copy, then that original table entry will be deleted and replaced with the copied table entry without any further prompting. If this option is not selected, then a dialog box listing the table entries that would be replaced is displayed. The operation of this dialog box is similar to the one for the Replace option on the Copy Questions dialog.

Move (delete original questions): if this option is selected, then after a successful copy, the original “from” table entries will be deleted. If a table entry was not copied due to the replace option being turned off, then it will not be deleted from its original place.

Copy everything: Check this box to copy the entire table. The fields pertaining to first and last variable are ignored. Because the target survey, language and/or table names are allowed to be multiple values, this operation can create many copies of an entire table. The “Replace” and “Move” options can also be specified.

Table Definition

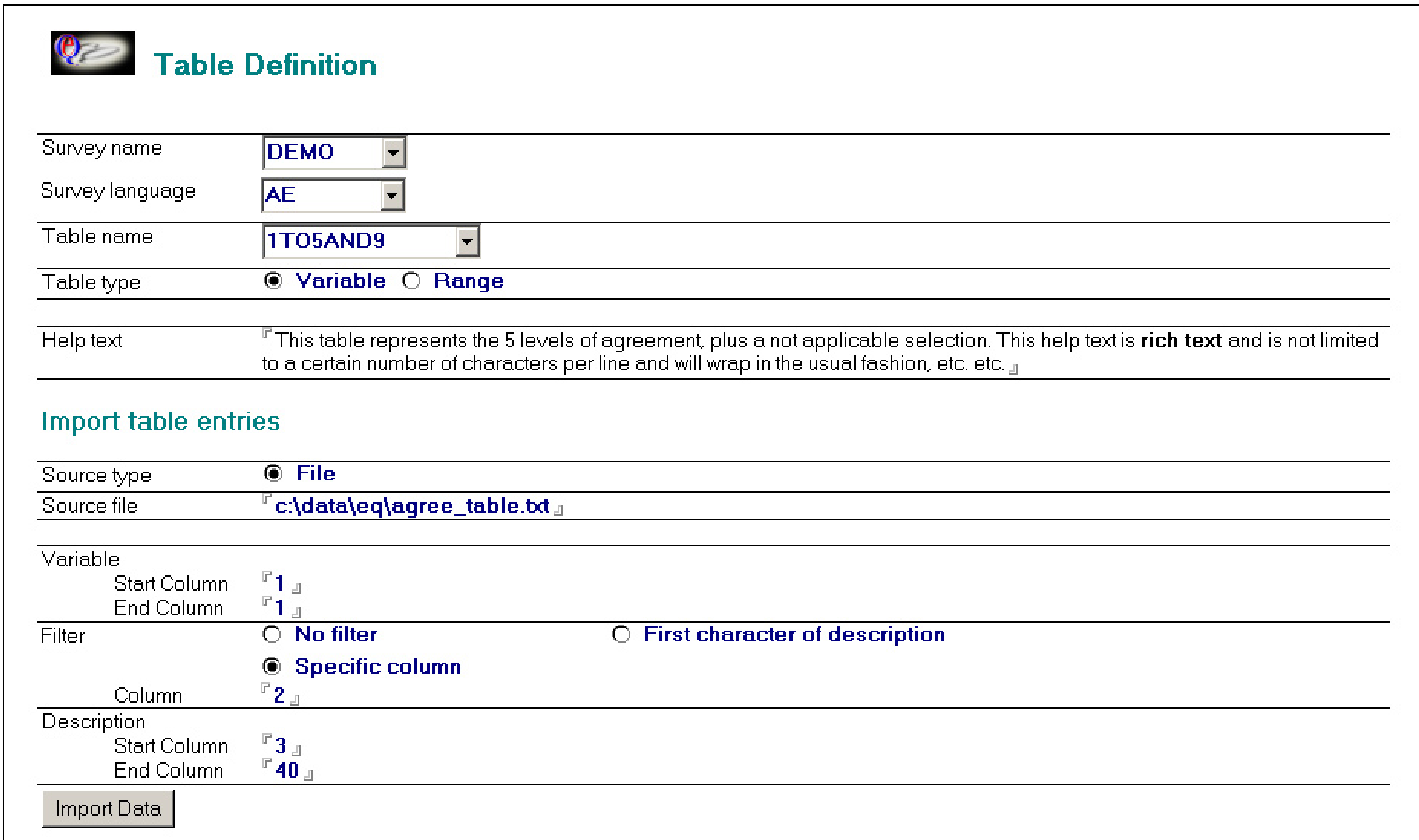


Table Definition

Survey name	DEMO
Survey language	AE
Table name	1TO5AND9
Table type	(•) Variable ( ) Range
Help text	This table represents the 5 levels of agreement, plus a not applicable selection. This help text is **rich text** and is not limited to a certain number of characters per line and will wrap in the usual fashion, etc. etc.

Import table entries

Source type	(•) File	
Source file	c:\data\eq\agree_table.txt	
Variable		
Start Column	1	
End Column	1	
Filter	( ) No filter	( ) First character of description
	(•) Specific column	
Column	2	
Description		
Start Column	3	
End Column	40	

Import Data

Table Definition document

The table definition document defines a table to a survey/language. It must be created before any table entries can be created. It contains information roughly equivalent to the OSS table header definition record. Table definition documents can be created from scratch using the Create table action button from the tables view, or an existing table definition document can be duplicated (using Notes copy and paste) and edited to create a new table definition.

The table definition document is also used to facilitate the importing of data from an external file.

Description of the fields on the form:

Survey name: the survey the table is associated with.

Survey language: the survey language the table is associated with.

Table name: the table name. Table names may be up to 12 characters long.

Table type: select the type of table being defined. Options are **variable**, the standard variable and description format with each entry enumerated, or **range**, where the table contains two entries that define the start and end of a range of values.

Help text: enter any overall table help text here.

The remainder of the form is only used if an import of table entries is to be performed. Import is in immediate interactive operation that creates table entry documents based on the contents of an external source file. You specify the particulars of your import file format here before performing the import.

Source type: select the type of external file being imported. Default is **file**, a flat file. [Initially, only flat text files are supported. This option exists for future development, for example to be able to import from a spreadsheet or database. When other sources are implemented, the following parameters may change, e.g. specify a spreadsheet column number rather than starting and ending character columns.]

The remainder of the import section will vary depending on the source type.

For **File**, the source is expected to be a columnar flat file with data for the table variable, filter and description to be in certain columns

Source file: specify the full path of the source file. The reference should be a legal operating system file reference that Notes can accept.

Under **Variable**, enter the start and end columns of the variable in the source file.

Under **Filter**, select **No filter** when the entries do not use filter characters, **First character of description** if the filter character is included in the description, or **Specific column** if the filter character appears in its own column in the input file; in which case enter the column number in the following input field.

You have the choice of defining the filter character as part of the description as it was in OSS, or treating it as a separate column during import.

Under **Description**, enter the start and end columns of the description in the source file.

Press the **Import data** button to have the application read the import file and create corresponding table entries for each line of the import file.

Table Entries

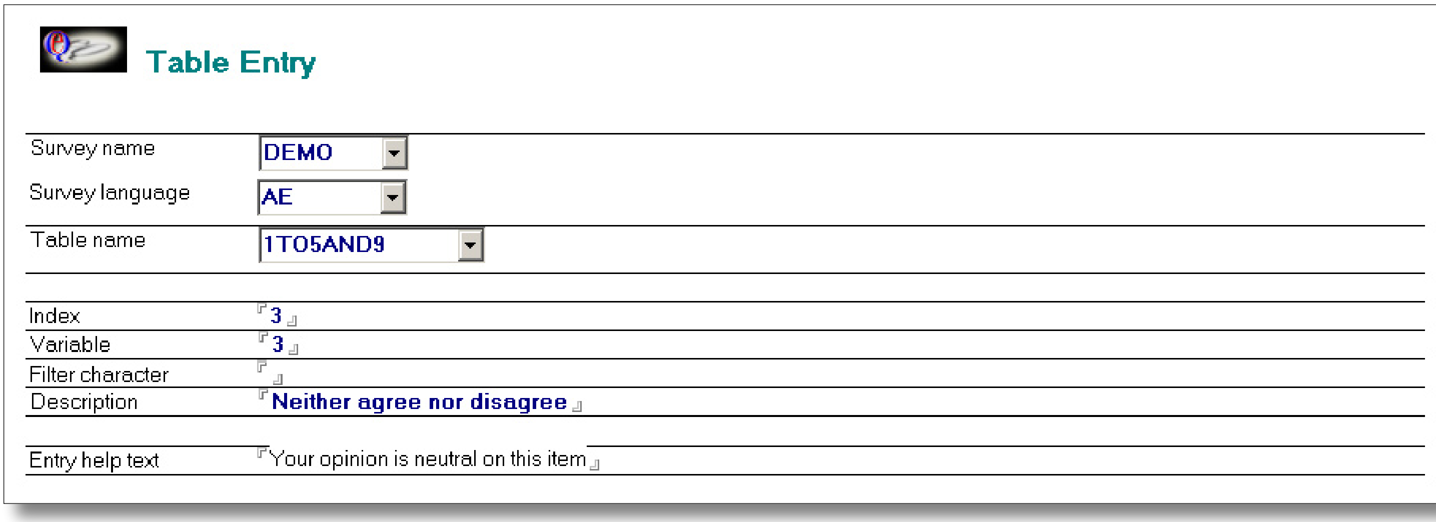


Table Entry

Survey name	DEMO
Survey language	AE
Table name	1TO5AND9
Index	3
Variable	3
Filter character	
Description	Neither agree nor disagree
Entry help text	Your opinion is neutral on this item

Table entry document

Use the table entry document to create and edit specific entries in a table.

Description of the fields on the form:

Survey name: the survey the table entry is associated with.

Survey language: the survey language the table entry is associated with.

Table name: the table name the entry belongs to. Table names may be up to 12 characters long.

Index: the ordering index of the table entry. For any new table entry, the index will default to a value one higher than the number of existing table entries, which means that new entries will go to the end of the table. Copied table entry documents will keep the index of their source, which may result in duplicate indexes. When there are duplicate indexes, Notes will order them by order of document creation. Fractional entries are permitted. You can reorder a table's entire index using the Re-Index action from the Tables view.

Variable: the table variable that is to be returned for the user's selection. You can force a table to be ordered by variable by using the Sort by Var action button from the Tables view.

The filter character is now maintained separately

Filter character: an optional filter character associated with this entry. This may be used to present a subset of the table for certain questions.

Description: the table entry's descriptive text. This is optional. If it is not specified, then the table variable is used.

Entry help text: optional help text associated with this entry. During compile of a survey, this text is moved into a help document that is shown when the user requests help during the survey.

Table entry help text is now maintained with the table entry itself, rather than thru a "BTO" pointer as it was in OSS.

Help Maintenance

Help Text maintenance

Help text in eQ Phase 2 will no longer be maintained in a separate help area as was done previously. Question level help is defined as part of basic question maintenance. Table level help is defined in the table control document and table entry documents.

Remember that the eQ help philosophy is to compose one large help document on demand when the user requests help. The help document will contain up to three possible sections, in this order:

1. The corresponding question level help defined in the question's basic maintenance section
2. If tables are used on the form, then for each table on the form, the corresponding table help text will be included. In addition, help text will be included for each associated table entry that has help defined. If the focus (user selection) is on a table entry at the time help is requested, eQ will attempt to position the help document near the help entry for the selected item.
3. The survey purpose, survey contact, and system contact specified in the survey definition document (formerly the 9999 record) will always be shown.

Releasing a Survey

Releasing a survey

The eQ Admin database is a separate database that will be introduced in Phase 2. It will be deployed to a local GNA server. Only support and administrators will have access to it. All survey creation and maintenance is done in the eQ Admin database.

Surveys in the eQ Admin database can be simulated by using Run Mode. This environment will be as close to running a survey as can be emulated. But the final step of testing survey design will be to **release** the survey.

The survey release operation, which will be available from an action from the questions view, will perform two main operations:

1. It will perform an integrity check of the survey and tables.
2. It will copy the survey data to a designated eQ end-user database for run-time verification.

The following is rough outline of release processing. A report will be generated in a separate document with the results of the integrity check. All of the steps will be performed even if errors preventing successful release are encountered.

In the following discussion, the word "panel" refers to a non-branching question definition.

- An inventory of all sequence numbers is built, both panel and branching.
- An inventory of all table name references is built.
- An inventory of all target sequence numbers will be built. A target sequence number is any of the following:
  - A branching target
  - A panel immediately following a panel with a Next button
  - A panel immediately preceding a panel with a Previous button
  - A panel following a branching definition that doesn't contain an unconditional branch.
- Verify that all table references exist. A table reference to a non-existent table is an error that will prevent successful release.
- Verify that all branching target sequence numbers exist. A branch reference to a non-existent sequence number is an error that will prevent successful release.
- Verify that all branches are forward branches. Branches cannot refer to sequence numbers equal to or less than their own. The existence of any backwards branch will prevent successful release.
- [deleted item referring to orphan help]
- Verify that all tables have been referenced. Unreferenced tables are enumerated in the report, but do not preclude successful release.
- Verify that all panels except the last have a Next button defined. Any panels that

do not are enumerated in the report, but do not preclude successful release. If the last panel has a Next button defined, it will be noted in the report, but does not preclude successful release. Note that this Next button will automatically be replaced by Submit at run time.

- Verify that all panels except the first have a Previous button defined. Any panels that do not are enumerated in the report, but do not preclude successful release. If the first panel has a Previous button defined, it will be noted in the report, but does not preclude successful release. This button will have no effect at run time.
- Verify that all panels and branching definitions can be reached (i.e. that they are in the target sequence number inventory). If there are "orphaned" panels or branching definitions, they are enumerated in the report, but do not preclude successful release.

If errors precluding release were encountered, a message is displayed and you will need to review the report and correct the errors. Otherwise, a confirmation appears asking if you want to continue with the release process. You may reply No and review the report for warnings, or reply Yes to continue with the release operation.

The release operation will then copy the "compiled" survey to a run-time eQ database. This may be a test database, or it may be production (eqstage). If the latter the survey will be available to end users by normal replication.

The copy/release process recompiles the survey definition data to the form understood by the eQ end user database. None of the question forms in the end-user database have the editing capability that is present in the eQ admin database, nor do they need it. To keep the end-user database size small only runnable versions of the question formats will be defined there.

This does create a duality of the end-user and admin question layouts. Testing surveys in both environments will be very important as Phase 2 is released, as well as during any subsequent code drops.

Survey Structure Report

Structured Survey Report Outline

The structured survey report function is used to create a printable review copy of a survey with all of its tables, help and branching inline for easy reference.

The “Structured Survey Report” action button will replace the current “Format for Print” action button on the Questions view. Select the survey(s) for which a report is to be generated and press the action button.

The report will generate a separate Notes database on your client workstation. This is done for two reasons:

1. To avoid problems with document size (trying to store a printout of a whole survey in one big document would be problematic). This approach allows for one printout document per question.
2. Notes databases already have good controls for printing all documents in a view with pagination options.

The databases created by this operation will have the naming format: **eqssr-<*language*>-<*surveyname*>.nsf**. When the operation completes, the report database for the first selected survey will be opened.

The database will contain one report document for each question (panel or branching) or instruction in the survey, in a view called Questions. A Print action button will initiate a printout of all the documents in the view. The operation will be the same as doing the following manually:

1. Edit -> Select all documents
2. File -> Print -> Selected documents
3. From the Print dialog, under Content -> Customize: Begin Printing each document on a new page; Print each document using its standard form.

You may of course choose to perform these operations yourself and modify the customization options.

To create a single electronically distributable version of the entire survey, it is recommended that the aforementioned print procedure be performed to a print driver that is capable of creating a structured text document. The Adobe Distiller printer that ships with the full version of Adobe’s Acrobat package is highly recommended. This will allow administrators to easily create a single PDF file of the entire survey.

Each document in the report database will contain information culled from a survey question and all associated table and branching documents. The following is an outline of the format of each non-branching question report document:

- “Come from”: this area will list the sequence number of the panels that can lead you to the current question being reported: Next from ####, Previous from ####, Branch from ####.

- Question header: this area contains the text that appears in the banner of the question. (Title line, Survey Name and Seq #, Title 2nd line, Category). (Note: the graphic banner is not used).
- Question Rich Text: this is the main body of the question or instruction text.
- Question particulars: this section contains the subquestions or other layout specific information, the details of which will be described later.
- Basic Maintenance information: This section contains the basic maintenance settings for the question. The layout of the section is similar to that of the Basic maintenance described earlier in this document, except that the values are displayed as plain text rather than interface controls (radio button, etc).
- Help: this section contains the help text associated with the question. This will consist of the question help text, followed by the table help for any table referenced by the question that includes such help. Table help consists of the help associated with the table definition, followed by the help associated with the table entries.

The Question Particulars section varies depending on the layout of the question.

For all of the N-wide formats that use Checkboxes or Radio buttons the layout is as follows, for each subquestion:

- The subquestion text
- The name of the response table in [brackets], followed by the text "Minimum ##, Maximum ##, Filters XX, XX…" describing the settings for minimum, maximum and filter values associated with the subquestion.
- The response area table data, as displayed as it would in the end-user's session (i.e. as a table of checkboxes or radio buttons). The table data for each subquestion is displayed even if the table is the same for multiple subquestions.

For the N-wide formats that use listboxes, the layout for each subquestion is:

- The subquestion text
- The name of the response table in [brackets], followed by the text "Minimum ##, Maximum ##, Filters XX, XX" describing the settings for minimum, maximum and filter values associated with the subquestion.
- If this is the first reference to the table on this question, then the response area table data, displayed as a boxed list (all of the data with a box around it) follows. The table data is in the format *<variable>*: *<description>*
- If this is not the first reference to the table on this question, then the italicized text *See enumeration above* appears.

For Ranking formats, the layout is:

- The subquestion text
- The name of the response table in [brackets], followed by the text "Minimum ##, Maximum ##, Filters XX, XX" describing the settings for minimum, maximum

and filter values associated with the subquestion.

- If this is the first reference to the table on this question, then the response area table data, displayed as a boxed list (all of the data with a box around it) follows. The table data is in the format *<variable>***:** *<description>*
- If this is not the first reference to the table on this question, then the italicized text *See enumeration above* appears.

For Two- and Three-column formats, the layout is:

- A table that appears similar to the one defined earlier in this document for Two- and Three-column maintenance. Radio box interfaces on that maintenance panel are replaced with the text of the selection ("Response type:" followed by "Numeric", "Hourly", or "Text" for response type; "Reference type:" followed by "Table" or "Question" for reference type.
- For each table referenced as a response table in the question maintenance, a header line of the form *"[table]:table-type"* (where table type is Variable or Range), followed by an enumeration of the defined table values. If the same table is used in both columns, it will only be enumerated once.

Branching formats have their own report layout. The "come from" section will appear at the top of the report like other questions, followed by the complete branching summary. Each branching definition will be on a separate report page (i.e. one report page per sequence number).

Open Issues

Open Issues

- FMT codes: New FMT codes will be devised.
- OSS stores survey question definition data in its tables. This means part or all of the survey question can be easily “joined” during reporting. We had not planned to export Notes eQ Phase 2 survey definitions to DB2; however it is apparent that some connection will be necessary for reporting. Two possibilities come to mind:
    - Establish a subset of question definition data that must be exported from Notes to DB2 prior to response reporting. An abstract of the question text may be a new field that the eQ administrator would fill in on question maintenance. This will be a new eQ Admin scheduled agent.
- Changes needed to eQ user code
    - Define new eQ User database based on current eQ database. This will be the new Phase 2 end-user release.
    - Expand verification and answer generation to allow up to 20 subquestions (for Ranking: allow up to 5 subquestions)
    - Decompose tables (or consolidate eQ admin tables to Phase 1 format)
    - Recode help logic or compile table help into old scheme
    - Changes to hourly summing (target sum in hh:mm format, rather than simply integer hours)
    - Expanded branching logic
- Expanded Admin Print Survey function, including inline table (and help?) formatting. Addressed in new Structured Survey Report section.
- Add a help usage counter to each question document, which will add an indicator to the response document when survey Help is accessed from that panel. A report (TBD) will be written to tabulate help usage statistics.