Getting started with Snap Scanning

Should you require any technical support for the Snap survey software or any assistance with software licenses, training and Snap research services please contact us at one of our offices.

Details can be found at www.snapsurveys.com or under About Snap in the Help menu of the software.
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1: An introduction to scanning

This Guide is designed to show how to set up a scanning survey, from design, publishing and calibration to collecting replies and analyzing the results. Features include:

- automated collection of checkbox replies
- automated collection of handwritten replies
- automated handling of cross-outs
- images and color
- full Rich Text Formatting
- storing of open-end comments

Dos and don’ts of scanning

When using the scanning module, use these Dos and Don'ts.

Do

- Use one of the scanning templates.
- Give instructions to write clearly.
- Apply the grid box style for open-ended questions and use patterns to help Snap recognize the sort of data that will be entered.
- Check the page layout settings are all the same (page setup in Snap, the paper size for the scanner and the paper size for the printer).
- Test the survey before you go live (print a few copies, get colleagues to complete them and scan the answers in to check that everything works).
Check that the number of cases scanned matches the number of questionnaires (write the case number on the paper questionnaire to keep track).

Scan in batches of up to fifty pages, and check that the right number of pages have been scanned.

Don't

- Design questionnaires with boxes that are shadowed, contain a colored background or have a non-rectangular shape, such as a circle.
- Design questionnaires with boxes that do not have a clear margin around the perimeter of each box or with boxes that are too close together.
- Design questionnaires with backgrounds or colors that might conflict with the scanner used. Certain colors can appear transparent to a scanner. This is manufacturer-dependent. Colors should always be used with caution.
- Design your questionnaire so it prints outside the printable or scannable area.
- Change a questionnaire once you have started scanning.
- Expect to get good results from cases containing poorly written numbers or words. Although Snap will attempt to recognize them, it can only check for values against the Valid field applied to the question type.
- Change printer or printer driver after locking the survey and before scanning the final case.
- Upgrade Snap or Windows between publishing the questionnaire and scanning the final case.
2: Set up a survey framework

Please check that you can successfully scan a page with the scanner you are planning to use before you work your way through this guide. This makes sure that any problems you meet are not to do with the scanner set-up.

When you first start Snap you are presented with the **Survey Overview** window showing a list of all the surveys that have been stored in your current working folder.

To start a new survey, click + at the top of the **Survey Overview** window. A new dialog will appear entitled **Survey Details**.

1. Type a name in the **Survey** field e.g. Quick
2. Press [Tab] and enter a description of *QuickStart Satisfaction Survey* in the field marked **Title**.
3. Below the Title field is a series of fields marked **New Survey Settings**, which set out the look and feel of the questionnaire.

![Survey Details](image)

The two settings needed in the **Publication Medium** field for a scanned questionnaire are **Paper** and **Scanning**.

The default setting for **Language** is set by your system.

The default **Style Template** is set to **Default Scanning.qsf**. This creates an initial layout of your scanning questionnaire together with the fonts and boxes used. These settings can all be modified but leave them as they are, as they'll generate a layout that is designed for easy scanning.
4. Click [OK] to create the framework for the new survey. Snap will then display the **Questionnaire-Design Mode** window, which at present contains no questions.

If your printer settings are different from the ones in the default style, you will be asked if you want to change the questionnaire size to match the printer. Click [Yes].
3: Design a questionnaire

Snap has over a dozen different types of styles and questions. These range from multi-choice questions to open questions, from free text to numeric answers, from titles and subtitles to notes and instructions. Each of these has a style defined in Snap. You enter the question text and answer labels and Snap will format the questionnaire for you.

Snap comes with style templates that have been created for particular tasks. None of the templates are fixed – you merely use them as guides. If you want to alter a specific question layout, you can. Snap will keep all your changes with that particular survey.

3.1: Start with a heading for the survey

Headings and sub-headings can be placed anywhere in your survey, but Snap assumes that a new survey has a heading at the beginning together with some instructions. The styles Title and Sub Title are assumed to start the questionnaire.

The toolbar at the top of the Questionnaire window already shows Title as the Style Name for the first item. (The Questionnaire window should already be open. If not, then click the button on the main toolbar. You will see a blank questionnaire showing a highlighted area for the Title of the survey).

1. In the area marked Click here for text, type Satisfaction Survey. The default style is Arial 20 point but you can change the look of the text by highlighting any of the words and selecting an alternative font on the toolbar.

2. Press [Enter] when you have set up your title. An area for a Sub Title will then appear.
3. Type *Please help us to continue improving the standards in our restaurant by answering a few simple questions* in this area. The default setting for **Sub Title** is Arial 16 point.

4. Press [Enter] when you have entered your sub-title.

### 3.2: Add your first multiple-choice question

After you’ve entered the sub-title and pressed [Enter], Snap automatically creates the first question. By default, this is created as a multi-choice question and the question style is shown as **Multi Choice** on the toolbar. It is stored as Q1, and given the number Q1 as defined by the style template.

Our first question is about the items purchased in the restaurant. The respondent will be presented with a list of options, and they can select as many as they wish.

1. An area is marked **Click here for text**. Type *Which of the following items did you order today?*

2. Press the [Tab] key on your keyboard. The cursor moves into an area by the selection box. Type *Hamburger* and press [Tab] to move to the next line. Snap creates a selection box for that option.

3. Continue with the text for the other items and press [Tab] after each one:

   *Pizza* [Tab]
Salad [Tab]
Ice cream [Tab]
Coffee/tea [Tab]

4. For the last code, Soft drink, type it in but at the end, instead of pressing [Tab] press [Enter], which will tell Snap that you want to finish this question and start a new question.

3.3: What about those other questions

It’s likely that your list of items will not be exhaustive, so it’s wise to add a space to allow the respondent to key in anything that is not mentioned on the list. This is done using an Other question, which collects any combination of text or numbers.

1. With the window showing Q2 as the next question, use the button to the right of the words Multi Choice to display the full list of other question style names. Select Other. This allows the respondent to enter free format text and moves the question up to the question above.
Snap does create this question as Q1a, but the question number is hidden from view.

You can quickly create an Other type question by entering [Ctrl]+[Enter] at the end of your multi-choice question instead of [Enter].

2. Click the box marked Click here for text and type Other, please specify. Snap creates a box that expects up to 100 characters. This should be sufficient to store whatever’s written. You’ll see later how to alter the size of the box to hold more data.

The response box for scanning gives a separate box for each character of the response. It looks short, as it fits in the available space. You will see how to change the way it appears later.

3. Press [Enter] and Snap will move on to create the next question (Q2).
3.4: Add an open-ended quantity question

1. The next question will ask how much they spend. It will be an open-ended style question so the respondent can enter a number.

2. On the Toolbar options, alter the style from Multi-choice to Open Ended to allow any character or number to be entered in the box.

3. In the field marked Click here for text, type How much did you spend today?

4. By default, open-ended questions have a response type of literal. This means that any characters can be entered in the box. To ensure that respondents enter a number, you must convert the response type to Quantity. You can then perform calculations on the result.

   Click 📝 to display the Variable Properties for Q2. Alter the Response field from Literal to Quantity. This question will now only accept numbers. Since you know that the respondent is entering currency information, you can set the parameters to be slightly more specific.

   Change the Data Length and the Box Length to 5.
Change the number of **Decimal Places** to 2.

5. Click [OK] to return to the questionnaire.

### 3.5: Add a grid question

The next task is to create a **Grid** which is simply a series of single or multiple response questions organized in the form of a grid.

Press [Enter] to create a new question. Click the button to the right of the words **Open Ended** on the toolbar to display the other style names and select **Grid First**.

1. In the area marked **Click here for text**, type *How did you rate the following?* and press the [Tab] key on your keyboard.
2. The cursor moves to the list of codes across the top of the grid.

3. Type *Very good* and press [Tab]. Type *Good* and press [Tab]. Type *OK* and press [Tab]. Type *Poor* and press [Tab]. Type *Very poor* and since this is the last code to be set up, press [↓] instead of [Tab].

4. The cursor will move to the text of the first Grid label. Type *Service* and press [Tab]. Type *Quality* and press [Tab].

5. For the last Grid label, type *Price* but instead of pressing [Tab], press [Enter] to complete the grid and move to a new question (Q4).

<table>
<thead>
<tr>
<th>Q3 How did you rate the following?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service</td>
</tr>
<tr>
<td>Quality</td>
</tr>
<tr>
<td>Price</td>
</tr>
<tr>
<td>Very good</td>
</tr>
</tbody>
</table>

3.6: Allow for any comments

The next question is free format to allow the respondent to record feedback comments. Snap has automatically started to create Q4 and all you need to do is to change it from a Multi Choice question to an Open Ended Non Gridded. This will create a large box that allows the respondent to enter free format text as a reply.

1. Use the ▼ button to the right of the words Multi Choice on the toolbar. A drop-down list will appear, displaying the other style types. If Open Ended Non Gridded is not visible in the list, click More Styles.... Select Open Ended Non Gridded in
the dialog that appears and click [OK]. Type *Do you have any other comments?*

2. The default capacity for this box is 100 characters and it appears as a single line. If this is not enough space, it is easy to increase. Make sure that Q4 is selected, then either use [Alt] + [Enter] or click to display the **Variable Properties** dialog.

3. Set the **Box Scaling** to No. Set the **Box Length** and the **Data Length** to 108.

4. Click [OK] to close the **Variable Properties** dialog.

5. Press [Enter] to move to a new question.

**3.7: Pick a demographic question from the SurveyPak library**

SurveyPaks contain frequently used questions that can be copied directly to a Snap survey, avoiding the need to specify the question from scratch. You can then edit the question
within the survey. You access the SurveyPaks from the Reference window.

1. Open the **Reference** window by clicking on the 📖 button of the main program toolbar. The only other window open should be the **Questionnaire** window.

2. Select **Window | Tile** so that the two windows are arranged side by side.

3. Double-click on the **Personal Demographics** category in the **Reference** SurveyPak.
4. Double-click the **Age** topic to display a number of age related questions. Highlight the first age question **Age of respondent**. The text of the question and the codes are displayed in the bottom part of the window.

5. Drag the Age question from the **SurveyPak** into the questionnaire. With the pointer hovering over the Age question, press and hold the left button, and as you move it, the pointer will change to 📌. Keep the left button pressed and drag the question from the **Reference** window on the left to the **Questionnaire** window on the right. As you move the pointer over the questionnaire, it will alter once again:

- 📌 insert the new question *before* this question.
- 📌 replace this question with the new one.
- 📌 insert the new question *after* this question.
- 📌 insert the new question *after* this question.
6. When you release the mouse button, the new question is dropped in the position indicated and will adopt the same look and feel as all the existing questions in your survey. Wherever you place the question, it is now part of your questionnaire. You can make changes to the text or add, edit or delete codes in the list. Snap will allocate a number to your new question wherever you’ve placed it. If you need to move it, you can use the [Ctrl] + [↑] or [Ctrl] + [↓] keys. Snap will automatically renumber the question as you move it.

7. Move the Age question so that it is Q4, immediately above the Do you have any other comments question.


3.8: Add a thank you to the questionnaire

Place a note at the end of our questionnaire thanking the respondent for taking the time to complete the survey.

1. Go to Q5 and press [Enter] to create a new question.
2. Use the button to the right of the words **Open Ended** on the toolbar. A drop-down list will appear, displaying the other question types. Select **Sub Title**. Type **Thank you for your input!**

3. Click ✅ to save the changes to your questionnaire.
4: Formatting the questionnaire

1. Click ✎ in the Questionnaire toolbar to get a print preview of the document.

2. Click [Cancel] to go back to the Questionnaire window.
You can make formatting changes to the survey to get a more professional looking form and add some features to improve the scanning accuracy. Once formatting has been applied, the finished survey will look like this.

4.1: Changing to landscape
First, alter the appearance of the questionnaire from Portrait to Landscape orientation.

1. Click on the Questionnaire window toolbar to open the Questionnaire Properties dialog.

2. Select Page from the list of sections on the left of the dialog.
3. Click **Landscape** to set the paper orientation.

![Landscape setting](image)

4. Click **[OK]** to accept the change.

### 4.2: Add a logo to the title

1. Select the **Title** field showing **Satisfaction Survey**. When you’ve selected it, an aqua border will appear around it.

2. Select **Background** in the toolbar topic dropdown list and click the **[Picture]** button.

The **Picture** dialog will open, allowing you to select an image to insert, and choose its position.

3. Click the **[Browse]** button. The folder **Images\** opens by default. Change to the sub-folder **Images\Icons**.

4. Select the file **tick_icon.gif** and click **[Open]**. The **Picture** dialog displays your choice. Select the **Horizontal Alignment** drop-down list and change it to **Right**. This inserts the picture at the right-hand end of the title text. Set the radio buttons for both **Horizontal** and **Vertical Alignment** to **Fit** to put a single copy of the picture in a fixed position. You may wish to alter the color of the image by using **Colourize Gif**.
5. When you’ve made your changes, click [OK] to return to the Questionnaire window showing the logo added to the title of the survey.

6. Click ✅ to save the changes to the questionnaire.

4.3: Change the subtitle background

1. Scroll to the top of the document and select the Sub Title.

2. Click the Style Mode icon 🛠️ on the Questionnaire toolbar. This changes the mode from Design Mode to Style Mode. Style Mode allows you to make changes to all question styles or a particular style of question all at once.

   Notice that the selected sub-title now has the selection marked by a red border.

3. Select Background in the toolbar topics list.

4. Click [Colour] in the Questionnaire toolbar.

5. Choose Steel Blue from the color palette.
6. Change the toolbar topic setting from **Background** to **Font**.
7. Change the font color to white.
8. Scroll down to the end of the questionnaire and you'll notice that the second Sub Title, the **Thank you**, will have the exact same formatting as the first.

![](image)

9. Click the **Design Mode** icon 🎨 on the **Questionnaire** toolbar to leave **Style Mode**.

### 4.4: Adjusting the "Other, please specify" question

The boxes to enter a response to the "Other" question seem a bit short, as there isn't much space available for them.

1. Select the **Other, please specify** question.
   
   Press [Alt] + [Enter] or click 🖂 to display the **Variable Properties** for Q1a.

2. Change the **Data Length** to **15**. That should be adequate to enter the name of an item.

3. Change the **Box Scaling** to **No**. This stops the boxes changing size according to the available space.
4. Change the **Box Length** to 15. That means that a fifteen space box will be provided to enter the data.

5. Click [OK] to close the **Variable Properties** dialog.

6. Select **Positions** in the list of toolbar topics (currently set to Font), and then change **Beside to Above**. This places the *Other, please specify* text above the box for the response, and gives space for the fifteen characters.
4.5: Adjusting the "How much did you spend" question for currency

Apply one last bit of formatting to Q2. Add a currency symbol before the response box to make it obvious that respondents don't have to enter it themselves.

1. Select Q2 and change the toolbar topic drop-down from Positions to Alignment.
2. Click Text in the style attribute drop-down.
3. Choose Code Box from the drop down list next to Alignment.
4. Change the Alignment of the Code Box from Left to Right.
5. Change the Alignment toolbar topic to Show.
6. Change the question component from Code Box to Grid Label.
7. Check the Show option. The Grid Label question element is made visible.
8. Remove the grid label text and replace it with “$”.
9. Change the Show toolbar topic option to Tabs. Select Grid Label in the next list and adjust its size to 5% to move the code box closer to the dollar sign.
10. As a final flourish, make the dollar sign bigger. Select the $ sign, then select Font in the list of toolbar topics.
11. Change the font size to 16.

4.6: Changing a question to full width

1. Select Q5 by clicking anywhere in the question. Change the toolbar topic setting to Columns.

2. Click [Full Page] to make Q5 a full page question, taking it out of the 2 column default format.

3. Making the question full width means that there is a bigger gap between the question number and the question text. Select Tabs in the toolbar topics and Name in the next dropdown list. Change the space for the Name from 10% to 5%. The questions should now line up.
4.7: Key an open question instead of scanning it

Large open-ended text boxes like those in Q5 do not lend themselves to neat replies and scanning accuracy like the grid box style used in Q2. It is often easier to recode or key an entire response rather than correct one that has been poorly interpreted.

You can set this question so you will be prompted to hand key the response to Q5 during the Keying/Cleaning phase of the scanning process (see the section Keying and Cleaning Data (see page 49)).

1. Right click Q5 and choose Variable Properties from the menu.
2. Change the Scanning Validation property to Keyed. This tells the Snap Scanning module not to attempt to interpret the hand written reply for this question during the scanning data detection process.
3. Click [OK] to continue.

4.8: Preview your changes

You have now completed the formatting changes to the survey. To preview the document, click the Print Preview icon in the Questionnaire toolbar.

When done previewing, click [Cancel] in the Printing Options dialog to return to the Questionnaire window.
5: Apply scanning validation patterns

You can help Snap recognize what it's scanning by using scanning validation. Scanning validation patterns tell Snap what sort of data to look for when the questionnaires are scanned in. Before you publish a questionnaire, you can set up patterns for open ended questions containing responses of quantities, literals, dates or times to help identify the handwritten data. Snap will look at the answer given for the question with the information provided in the **Pattern Match List** dialog to help increase the data recognition accuracy of the scanning process.

```
Accuracy depends greatly on the legibility of the writing. It's a good idea to ask respondents to write carefully and make sure their replies remain within the space defined for the reply.
```

To help Snap identify open ended data, you should use the grid box style with separators so Snap can identify single characters.

You can also use **Spelling** as a scanning validation option to help increase the data recognition accuracy of handwritten data. Snap then matches the handwritten reply for the question to the entries in the Snap dictionary. Spelling validation is not covered in this short guide.

Snap already includes validation for date and quantity questions (because you have told Snap what sort of data to expect) so this section describes how to set validation for an open question. You can be very precise about what responses are allowed, but this example shows how to limit the expected characters to alphabetic characters, spaces and hyphens.
5.1: Setting up open-ended questions for scanning

This section describes how to create a scanning validation pattern for Q1a “Other, please specify?”. You can tell Snap that what's in the box will be letters and spaces. Snap then knows that a hand-written character that could either be a 2 or a Z will be read as a Z.

1. Confirm the Questionnaire window for your Quick survey is open.

2. Highlight the question “Other, please specify?” in the Questionnaire window.

3. Click on the Questionnaire window toolbar to display the Variable Properties dialog. Scroll to display the Scanning Validation and change it from None to Pattern. . . . This opens the Pattern Match List dialog which lists all existing patterns for this question. You can create a new pattern, select an existing pattern or edit an existing pattern.

There are no existing patterns to start with.
4. Click [New...] to create one. This opens the **Pattern Match Details** dialog.

![Pattern Match Details dialog](image)

5. You can either type a pattern match expression directly into the **Pattern** specification box or use the **Pattern Item** dialog to assist you in setting up a pattern. Because you are new to scanning validation patterns, open the **Pattern Item** dialog box by clicking on [...] to the right of the **Pattern** specification box.
6. You are expecting plain text in the “Other, please specify?” box. Select all the alphabetic characters (A to Z, a to z), the space and the hyphen. You can do this by holding down the [Ctrl] key and then clicking and dragging to select the characters you want.
7. You then set the number of times the selected character or group of characters can be repeated in the **Repetition** box. Set the repetitions to be **0 or more**. Since the data length specified for **Q1a** was 15 characters, you do not have to enter a specific length.

![Pattern Item dialog](image)

8. Click **[OK]** in the **Pattern Item** dialog to return to the **Pattern Match Details** dialog box.

Now that you have created a pattern, you may test that it will always select the right characters using the **Test** section at the bottom of the **Pattern Match Details** dialog. This will save you time and confirm, prior to publishing the questionnaire, that your pattern is yielding the expected results.
Apply scanning validation patterns

Type likely responses in the **Test** field. The image below shows that a "2" will never be chosen as a possible response as it doesn’t match your pattern characters.

![Pattern Match Details](image)

Once tested, you may complete this pattern and return to the Questionnaire Design window by clicking **[OK]** in each of the open dialog boxes (**Pattern Match Details, Pattern Match List** and **Variable Properties**).
6: Publishing and distributing the questionnaire

Your questionnaire is now ready for publication. Publishing converts it into a form that can be filled out by your respondents and then scanned into Snap. If you need to make any changes before distribution, you can simply modify the questionnaire in Snap and then publish again.

Questionnaires can be published to an in-house printer or to PDF to be given to a print house.

**Warning** If published to PDF for an external print house, do make sure that they do not modify any aspect of the questionnaire; otherwise the completed questionnaires are unlikely to scan back into Snap correctly.

1. Open the **Questionnaire** window. Select the **File** menu on the main Snap toolbar and then select **Publish**. If you have not saved the questionnaire, a message will appear asking you if you wish to save changes. Click **Yes**.
2. The **Publish** dialog for scanning is very similar to **Print Preview** dialog, with the [Print] button replaced with [Publish]. Click the [Publish]. A dialog may appear asking whether you want to keep the changes to the questionnaire. If so, click [Yes].

![Publish dialog](image)

Snap will print a copy of the questionnaire and lock the questionnaire for scanning.

However, the questionnaire is not quite ready yet for distribution. Before distribution, you must first calibrate and then test the form.
6.1: Manual calibration of a questionnaire

Snap uses two methods to ensure the accurate detection of data from the scanned paper questionnaires; **Locator Blocks** and **Manual Calibration**.

The method used in this guide is **Manual Calibration**. You can find out more about using Locator blocks in the online user guide (http://www.snapsurveys.com/help/23194.htm). The manual calibration process is quite simple, requiring the following:

- A blank finalized survey (created when the survey was published).
- A scanner, either
  - directly connected to the Snap PC
  - or
  - which can save TIFF images to an accessible network drive or PC.

1. Click the **Data Entry** button on the main Snap toolbar to go into **Data Entry** mode.
2. **Data Entry** mode assumes you will hand-key data. To change this, click the **Tailor** icon in the **Data Entry** toolbar to open the **Data Entry Tailoring** dialog.
3. Check the **Scanning** option, then click **[OK]** to close the dialog and keep your settings.

4. Click the **Data Entry** window toolbar to change to prompted mode.

5. Click the right mouse button in the left-hand half of the window, and select **Calibrate** from the context menu.
6. Click [Check Sheet Map] to display the Sheet Mapping settings. For this example, you need to check that the orientation is Landscape to tell Snap what to expect.

7. Click [OK] to return to the Manual Calibration dialog.
8. Click [Next>] and a dialog box will appear asking you to place a blank questionnaire in the scanner.

9. Place the blank copy of the questionnaire you printed in Publishing the Questionnaire (see page 38) in the scanner and click [OK]. The document will be scanned and the calibration will begin.

The calibration process requires you to mark four boxes per page in the survey. These settings are saved and are referenced by Snap when scanning the questionnaires. The boxes selected by Snap are normally the multi-choice code boxes that are the closest to the corners of the document.

Snap displays the code box it wishes you to mark, together with the instruction.
10. Click the appropriate code box. A square appears round it, showing where Snap sees it.

11. Click [Next>] to identify the next box and repeat the process for the other three boxes.

12. When you have marked all four corners, Snap displays a message that the calibration is complete. Click [Finish] to return to the Data Entry window.

6.2: Testing the survey

Now that you've calibrated the questionnaire, you can start testing the survey....

The first step is to print several blank questionnaires, by following the instructions in section - Publishing the Questionnaire (see page 38). You can set the Number of Copies to print, and it is probably sensible to print 8-10 in case a few get spoiled. With some blank questionnaires, you and your colleagues can complete a few.

Since this is a tutorial, this will be the only distribution. When you create real surveys, it is still wise for you and your colleagues to complete a few questionnaires and scan them in to check for any problems before you distribute the survey to anyone else.
7: Collecting the survey responses

Once a few questionnaires have been completed, the first step is to check that your scanner is in the same state it was when you calibrated the questionnaire. The next step is to place a few completed questionnaires in the hopper and open the SnQuick survey. Try using three questionnaires.

1. When placing the pages in the scanner make sure that the pages are:
   - In order.
   - Placed neatly into the scanner.
   - The right way up
   - Free of heavy creases.

2. Click the Data Entry button on the main Snap toolbar to go into Data Entry mode.

3. Click on the toolbar of the Data Entry window. This puts you into questionnaire view, in which the image of the scanned questionnaire appears on the left, and the questionnaire appears on the right.
4. Click the **New Case** icon in the **Data Entry** toolbar to start scanning. *(NOTE: Snap refers to a completed questionnaire as a “case”).*

The **Acquire** dialog appears. This is where you define how pages are to be scanned.

The **Starting Case** and **Number of Cases** fields tell Snap which cases to scan and detect. The **Starting Case** is set to “New” by default as this is the beginning of the scanning process for this survey.

The completed questionnaires may be scanned and/or detected. The **Scan** option makes Snap create a TIFF image of each of the scanned questionnaires. The **Detect** option tells Snap to detect the data on the scanned images and update the Snap data file with the scanned data.
If you have a multi-page double-sided questionnaire, you define how it will be scanned in the **Sheets** section. *(This is greyed out in single sheet questionnaires like our sample survey).*

5. Set the **Number of Cases** to three since you put three completed questionnaires in the hopper to scan.

If less than three cases are scanned, Snap will warn you that an incorrect number of pages has been scanned. You could also set the **Number of Cases** to **Auto**, and Snap will scan all the questionnaires it finds.

6. Select the **Scan** and **Detect** options. *(NOTE: For larger volumes it may be advisable to separate the **Scan** and **Detect** processes. This will ensure the scanner operates at maximum speed.)*

7. Check **Print Batch Header** if you wish to print a hard copy summary report of the questionnaires scanned from the current batch. This batch report may be attached to the batch of questionnaires that have been scanned.

8. Click **[OK]** to start the scanning process. The pages will feed through the scanner and be processed by the system.

9. When the scanning is complete, Snap tells you. Click **[OK]**.
Snap then displays a message telling you how many sheets (questionnaire pages) and cases (complete questionnaires) have been processed.

![Auto detection completed](image)

10. Click [OK] to return to the Data Entry window.

**7.1: The scan in the Data Entry window**

You will see the image for the first case scanned on the left hand side of the screen along with the scanned data that was placed in the survey data file for that same questionnaire on the right hand side of the screen.

![Data Entry - Questionnaire Mode](image)

The horizontal scroll bar above the scanned questionnaire allows you to browse through the questionnaires that have been scanned.
Collecting the survey responses

Clicking on a question on the right hand side of the screen will highlight the same question in the image on the left which allows for a quick spot check of the data collected.

This process is not practical for validating a large numbers of scanned cases. However there is a function within Snap which will automatically highlight errors in the scanned surveys and allow you to clean and key large volumes of data.

7.2: Keying and cleaning data

Once cases are scanned, you will need to clean the data to make sure the data has been collected accurately. This may include keying in data that cannot be easily interpreted. Poor handwritten replies and multiple replies to single response questions are the most common elements that need to be handled in this stage.

You can also use Pattern Matching and Spelling to help Snap check responses. These can be set when you design the questionnaire, but you can also apply them to questions later. The section Apply scanning validation patterns (see page 32) describes how to use them.

7.3: Keying data

1. Display the first case in the Data Entry split screen window using the horizontal scroll bar at the top of the window.
2. Click the **Keying/Cleaning** icon 📄 in the **Data Entry** toolbar to open the **Keying/Cleaning** dialog. This is used to identify the questions which may need to be keyed by hand.

![Keying/Cleaning dialog](image)

The **Key from Image** tab is used for open ended questions.

- The **Needs Keying** option is for open ended question responses to be keyed by hand.
- The **Validation Failure** will find any questions where pattern matching has failed and so keying is also required.
- **Validation Uncertain** is where Snap has tried to find a pattern or spelling match and is unsure whether the answer given is correct.
- You can go directly to particular variables or cases by using the **Selection** and **Filter** options. Checking **Selection** allows you to enter the names of variables you want to key. You will then go directly to that variable. You can enter a list of case numbers in the **Filter** box to check those cases.
Collecting the survey responses

3. Check **Needs Keying**, **Validation Failure** and the **Validation Uncertain** boxes. Leave the **Selection** and **Filter** options empty to see all the open-ended questions will appear in the order in which they are on the questionnaire. Click [OK] to begin the **Key from Image** process.

4. You gave **Q5**, the open ended comments question, a **Scanning Validation** property of **Keyed** during the questionnaire design process. This told Snap not to attempt to interpret the hand written reply for this question during the scanning data detection process. Now, during the **Key from Image** process, Snap will direct you to recode or key the hand written reply to **Q5** into the Snap data file using the data entry window on the right hand side of the Scanning **Data Entry** screen.
5. Once the reply is keyed, click **Enter** to advance to the next case until the **Q5** data for all cases has been entered or recoded.

   At that point the **Keying Complete** dialog will be displayed. Click [**OK**] and proceed to the **Cleaning** data function.

**7.4: Cleaning data**

An important part of the data editing stage is to clean the data. Snap has already detected the data and stored its interpretation in a form ready for analysis. However, it is wise to carry out the cleaning stage to ensure that the data detection stage has been sufficiently accurate.

1. Display the first case in the **Data Entry** split screen window using the horizontal scroll bar at the top of the window.

2. Click the **Keying/Cleaning** icon ♫ in the **Data Entry** toolbar to open the **Keying/Cleaning** dialog again.

3. This time, click the **Cleaning** tab. Select all five options to ensure that no incorrect data is missed.

The five options are:
<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unrecognized</strong></td>
<td>Detection of cases where Snap has not recognized the entry boxes. It will be necessary to key in the responses manually. This could arise from poorly printed questionnaires that are misaligned.</td>
</tr>
<tr>
<td><strong>Errors</strong></td>
<td>Data is out of range, text appears in questions set as <strong>Quantity Response</strong>, <strong>Date Response</strong> with data not in date format or <strong>Time Response</strong> with data not in time format.</td>
</tr>
<tr>
<td><strong>No Reply</strong></td>
<td>No value has been selected. Normally this is because the respondent failed to answer a question.</td>
</tr>
<tr>
<td><strong>All Reply</strong></td>
<td>The situation where every box has been ticked on a <strong>Multiple Response</strong> question. Logically this can happen on a <strong>Multiple Response</strong> question, but may indicate a more serious problem in that the boxes were not deskewed correctly during the scanning stage.</td>
</tr>
<tr>
<td><strong>Multiple Response to a Single</strong></td>
<td>This might be an error on the part of the respondent in that they provided more than one answer to a <strong>Single Response</strong> question. Alternatively, it might indicate an error in the deskewing process.</td>
</tr>
</tbody>
</table>

4. Click [OK] to start the cleaning process. Messages will appear above the scanned image explaining any specific errors. Snap will also highlight the variable in need of cleaning.
5. As each correction is made, press [Enter] to advance to the next question response in error until the Keying Completed message is displayed. Click [OK] to finish the cleaning.

Remember not to rush the early stages of a scanning project. Time spent at the design stages and calibration will ensure that your replies are collected accurately and will pay dividends once you start scanning in those thousands of completed questionnaires.
8: Analyze the survey results

The remaining pages of this guide provide a short introduction to the analysis of survey results, for those of you who haven't already covered this aspect. To help you start analyzing a survey, we’ve provided you with a sample survey called Crocodile. It already has over 200 completed replies.

1. Click 🗂 to open the overview window. If the Crocodile survey is not visible in the window, you will have to click [Browse] on the toolbar to find the folder where it is.

   Double-click the survey to open it.

8.1: Analyze the entire questionnaire

A unique feature of Snap is its ability to create two reports for you automatically.

- The Questionnaire report generates a top-line summary report showing the counts/percentages of responses in the questionnaire layout.

- The Summary report generates a chart, table or list for every question, as appropriate.

You can find these in the Reports window.
1. Click 📊 on the Snap toolbar to open the Reports window.

![Reports window]

2. Select the Questionnaire report in the window.

3. Click the ⏯️ button on the Reports window toolbar to run the report.

4. The Reports dialog window will open. It will send a report straight to your printer. If you want to use a different printer (such as a PDF writer), click [Printer] to choose a printer.

![Report Execution - Questionnaire dialog]
5. Click [OK] to run your report.
8.2: Analyze a single question

Frequency tables are the quickest and easiest method of tabulating single questions. You can produce them in Snap just by specifying the name of the question or questions.

You can then use Snap to calculate percentages in tables, filter results to look at subsets of data and apply scores to results.

1. Click □ on the main Snap toolbar to create a results table. The Analysis Definition dialog will then appear.

2. In the Analysis field, type q2. The drop-down list for the Calculate field should show Counts and Percents.

3. In the Style field, use ▼ to select a style for the appearance of the table. Choose Font Size 10.
4. In the **Show Options** section, select **Counts** and **Base Percents**. **Counts** shows how many cases fall into each category and **Base Percents** shows all answers as a percentage of the base, i.e. total number of respondents.
5. Click [OK] to build the frequency table.

![Frequency Table]

6. Click ✅ to save the table. The name of the saved table, **AN18: Frequency of visit**, will appear as the window title. If the **Questionnaire – Design Mode** window is still open, you will get a message asking you to close it before the table can be saved.

   Do not close the window containing this table, as it will be used in the instructions on the next few pages.

**8.3: Cross-tabulating a group of questions**

You can also cross-tabulate one question against other questions. For example, you could analyze the frequency of visits and break the results down by age. This example drags the question response to be analyzed directly into the table from the **Variables** window (instead of using the 💡 button to show the definition).
1. Click the button to open the Variables window.

You should now have two open windows: one containing a list of variables in the survey and another showing the table produced in the previous section.

If the table is not open:

- Click the button to open the Analyses window.
- Double-click the table, or select it and click the button.

2. Arrange the two windows with the Variables window on the left and the table of Q2 on the right.

3. Check the list of variables to make sure that Q9 is showing.
4. Click and hold on Q9. As soon as you move the mouse, the cursor changes to $$\text{+}$$.

Drag Q9 into the box above the base figure. The cursor changes to $$\text{+}$$ to show you are adding a column. Release the mouse to build the new table.

1. To alter the table further, click $$\text{+}$$ to display the Analysis Definition dialog box. Snap supports Counts and any combination of the three percentages – Analysis Percents,
Break Percents or Base Percents. Select any of these in the Options field and click [OK].

You can now convert the cross-tabulation into a chart.

8.4: Producing a stacked bar chart

1. Click to display the Analysis Definition dialog showing the definition of the table you’ve just created. It has Q2 in the Analysis field and Q9 in the Break field.

2. In the Type field, select Chart rather than Table.

3. Choose Horizontal Stacked Bar Counts as the style from the drop-down list and click [OK]. A stacked bar chart will be displayed.
8.5: Moving the legend on the chart

1. With the cursor anywhere over the chart, right-click and select Chart Designer from the context menu. The Chart Designer dialog appears.

2. Select Legend.

3. Click the Location tab and make sure Visible is checked.

4. Click the radio button at the position where you want the legend to appear.

5. Click [OK] to apply the changes.

8.6: Changing from a bar chart to another chart type

You can easily change the type of chart. There are three ways of changing the format of your charts.
Analyze the survey results

- Select a different template from the Analysis Definition dialog
- Use the Chart Designer to make small adjustments
- Use the Chart Wizard option to quickly alter the layout.

1. Open the window containing the bar chart from the previous section if it is not already open.
2. Right-click to display the context menu and then select the Chart Wizard option.

3. Select a chart type from the Gallery dialog. For simplicity, produce a 2-D vertical chart. The 2-D radio button and the Bar style should be selected. Click [Next]>.
4. With the **Style** dialog displayed, select any of the layouts from the list. For this tutorial, select option 1.

![Style dialog](image)

5. Click [Next>] to see the **Layout** options. You may need to change the position of the **Chart Legend** to the **Bottom** to make it clearly visible.

6. Click [Next>] to display the **Axes** options. You do not need to change them.

7. Click [Finish] to build the chart and return to the **Analyses** window in Snap.

![Frequency of visit by Age chart](image)
8.7: Saving and retrieving tables and charts

Any analyses that you’ve defined can be saved with the survey, so that the next time you access the survey they are automatically updated to reflect any new respondents that have been added.

1. To save an analysis you have created, click ✔ in its window toolbar.
2. If you do not wish to save it click ✖.
3. To view your saved tables and charts, click 📊 or select View | Analyses.
The **Analyses** window displays the list of saved analyses. Select the one you wish to look at and double-click on it to open it.

There are several different layouts of tables and charts in the Crocodile survey, and you can explore them further to see what options are available.

You’ve now completed your whistle-stop tour of Snap, and in a short time, you’ve designed, published and scanned a survey and analyzed results.
9: Conclusion

After completing this short tutorial, you should know how to design a questionnaire to make it easy to scan. You should also be able to set up scanning validation on your questions, and create patterns to make it easier for Snap to recognize the sort of data that will be entered.

You can find out more about scanning in the Snap user manual and online help. These sections may be of particular interest:

- Scanning Validation Options
- Setting up questionnaires created elsewhere for scanning
- Troubleshooting scanning
- Keying of Literal Response Questions
- Pattern matching expressions