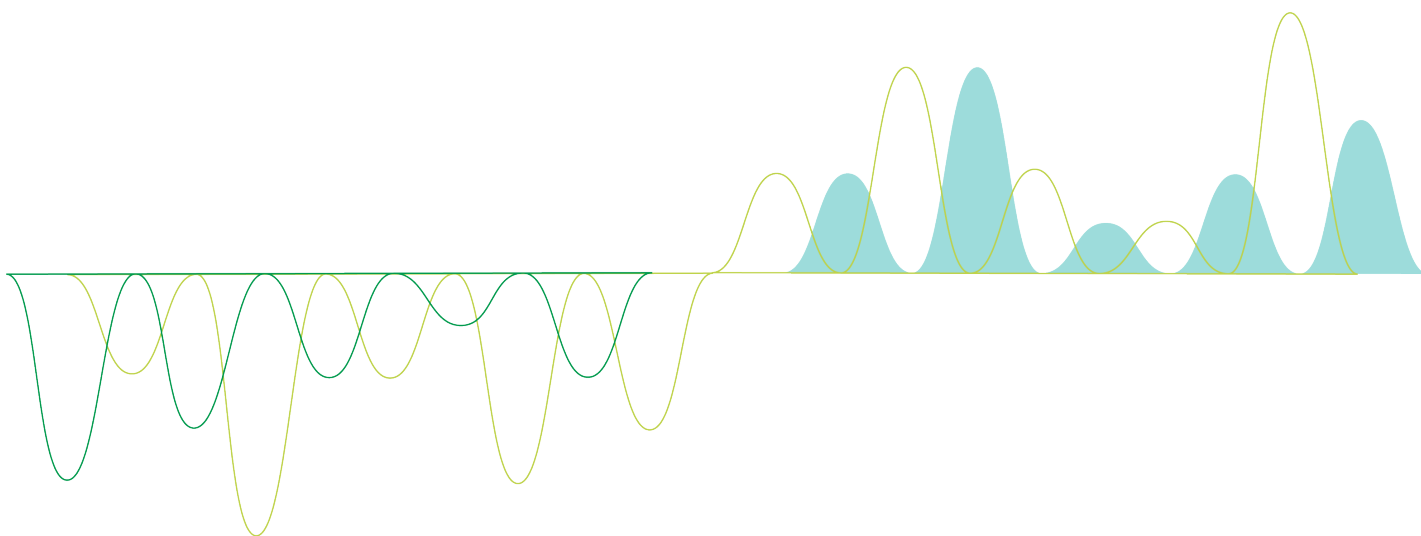


Collaborate in Qlik Sense

Qlik Sense®

April 2019

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1 About this document

This guide will introduce you to working with data storytelling, publishing, and exporting and printing, to make content available to other users.

Qlik Sense is developed with collaboration in mind and provides tools to help create a common understanding to support decisions and influence others.

This document is derived from the online help for Qlik Sense. It is intended for those who want to read parts of the help offline or print pages easily, and does not include any additional information compared with the online help.

You find the online help, additional guides and much more at help.qlik.com/sense.

2 Data storytelling

Data storytelling provides a way to share your data insights, whether they belong to a larger discussion or the main topic.

The purpose of data storytelling is to turn data discoveries into a story. Emphasizing important elements helps create convincing stories and supports stakeholders in decision-making.

Data storytelling lets you combine reporting, presentation, and exploratory analysis techniques to create and collaborate. You take snapshots of your discovered data to use in stories composed of slides. Snapshots can be enhanced with effects. This lets you emphasize the data insights you want your audience to focus on.

As you tell the story, you can answer questions by switching to a snapshot's source and accessing live data. This guides your story to new directions, triggering new conversations and deeper insights.

Storytelling becomes interactive by inserting live data sheets in slides, and making selections while presenting.

2.1 The story

In data storytelling, you use a story to collect and present insights and ideas to your audience. A story is presented as a timeline of slides. It can be based on traditional data storytelling structures, such as a three-act play or a hero's journey.

Stories are contained within an app. A story is connected to its app, so you can return to the live data anytime, to discover new and hidden stories.

To build a story you use time-based snapshots of your data visualizations and live data sheets and place them on the story's timeline.

You can, for instance add text and shapes, put emphasis on certain insights with visual effects, apply styling, and so on, to make the story compelling and engaging, and its purpose very clear.



You can export the story if you want to present it outside of Qlik Sense.

2.2 Snapshots

A snapshot is a graphical representation of the state (type and data) of a data object at a certain point in time that you can use when you build stories. The snapshot you take is a copy of the state. This means that the state of the snapshot does not change when the state of the corresponding data object gets updated.

Snapshots capture individual objects on a sheet during the analysis process. They store the visualization and data as you see it at that time enabling you to use them at a later point in time to tell a story. Each snapshot contains a bookmark back to the original context so that you quickly get access to the live data.

When you take a snapshot you can make an annotation for your snapshot. The annotation helps you distinguish between the different snapshots in the snapshot library when you build your story. The annotation is not visible when you play the story.



A snapshot's state and selections will not be updated at a data reload. It will always reflect the data that existed at the point in time the snapshot was taken.

2.3 Live data sheets

Using live data sheets in stories you can make sheet selections while playing the story. This way, you can show your insights without going to the app itself.

Playing a story, you can make and reset selections in the live data sheets. It works the same way as in any sheet, in sheet view.



The reset gives you the possibility to always return to the same selections as when you inserted the live data sheet on the slide.

2.4 Collecting insights for stories using snapshots

To get your app's full picture, you need a way to collect the insights you encounter. To do this, you take static snapshots of your visualizations.

A snapshot is a graphical representation of the state (type and data) of a data object at a certain point in time that you can use when you build stories. The snapshot you take is a copy of the state. This means that the state of the snapshot does not change when the state of the corresponding data object gets updated.

When you take a snapshot you can make an annotation for your snapshot. The annotation helps you distinguish between the different snapshots in the snapshot library when you build your story. The annotation is not visible when you play the story.

After taking snapshots of a specific visualization, you can open the **Snapshot library** from the visualization's shortcut menu. From there you can decide which snapshots to keep and use in your stories. You can also edit the annotation and delete the snapshots. .



When the snapshot library is opened from storytelling view, all the snapshots from all the visualizations in the app are displayed.



If the visualization you want to take a snapshot of is an extension, make sure to enable the snapshot functionality in its main script. To do that, set the snapshot property to true.

Taking a snapshot

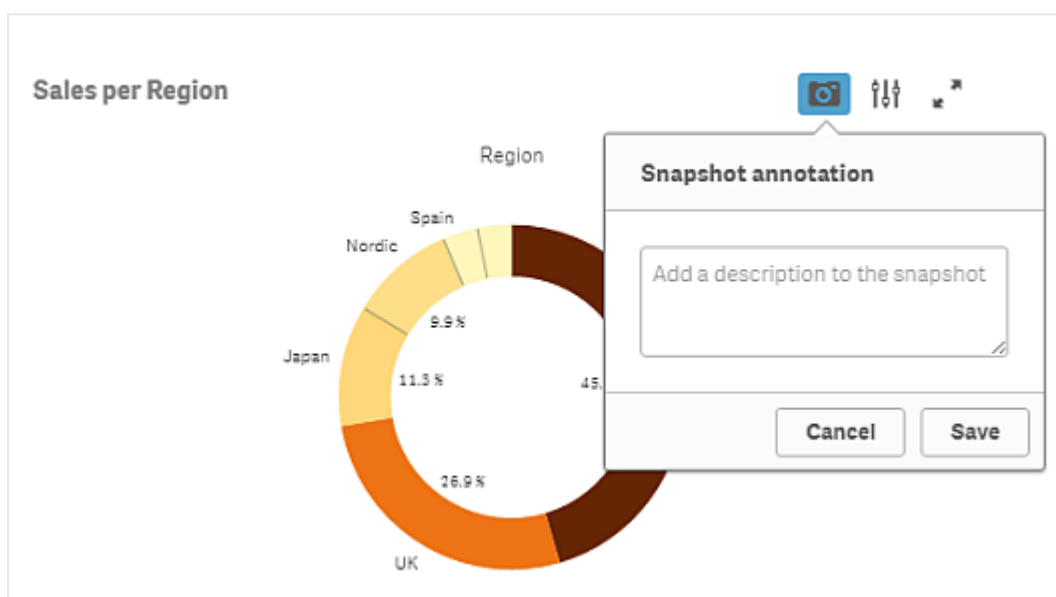
When you are in sheet view, you can take snapshots of the visualizations and use them to build a story in data storytelling.

You can take snapshots of all the different visualization types but not the filter panes.

Do the following:

1. Hover over the visualization you want to take a snapshot of, in sheet view.
2. Click  at the top right of the visualization or long-touch/right-click the visualization and select . The annotation dialog opens.

Pie chart Sales per Region and the snapshot annotation dialog open.



3. Type a description to help you distinguish between the snapshots in the snapshot library.
4. Click **Save** or click outside the dialog to close the dialog. The annotation is saved.

The snapshot is saved and named with the title of the visualization.

Viewing snapshots

Do the following:


1. Long-touch/right-click the visualization you want to view snapshots for. The visualization's shortcut menu is opened.
2. Select **Open snapshot library**.
The **Snapshot library** is opened with a list of all the snapshots taken of the visualization. The date stamp and any annotations helps you to distinguish between your snapshots.
3. Click outside the library to close it.


Deleting snapshots



Do the following:

1. Long-touch/right-click the visualization you want to view snapshots for. The visualization's shortcut menu opens.
2. Select **Open snapshot library**.

The **Snapshot library** is opened with a list of all the snapshots taken. The date stamp and any annotations helps you to distinguish between your snapshots.

3. Click  **Edit**.
4. Select the snapshots you want to delete.

 *You cannot delete snapshots that belong to a published version of an app.*

5. Click .
The selected snapshots are deleted.
6. Click  or outside the text.
7. Click outside the library to close it.



2.5 Selecting insights for stories with the snapshot library

You add your insights to a story by using the snapshots you have taken. You can access all the available snapshots from the snapshot library in storytelling view. .

Viewing snapshots from the snapshot library

When you are working on a story you can view all your snapshots from the snapshot library.

Do the following:

1. Click  in the story tools panel, in storytelling view.
The snapshot library is opened with your snapshots sorted by date with the most recent snapshot on top.
2. Click  to close the snapshot library.

Editing annotations in the snapshots library

When taking a snapshot you can choose to add an annotation. From the snapshot library, you can change the annotations or add annotations to snapshots without annotations.


Do the following:

1. Click  in the story tools panel, in storytelling view.

The snapshot library is opened with a list of all your snapshots.




*You can also access a snapshots library for each visualization. In sheet view, long-touch/right-click the visualization you want to view snapshots for and select **Open snapshot library** in the shortcut menu.*

2. Click .
3. Click the annotation text area, to the right of the snapshot name.



You cannot edit annotations for snapshots that belong to a published version of an app.

4. Edit the annotation.
5. Click  or outside the text area.
The annotation is saved.
6. Click outside the library to close it.

Deleting snapshots from the snapshots library

You can delete a snapshot from the snapshot library, which contains all snapshots you have taken in the app. You cannot delete snapshots that belong to a published version of an app.


Do the following:

1. Click  in the story tools panel, in storytelling view.

The snapshot library is opened with a list of all your snapshots.





*You can also access a snapshots library for each visualization. In sheet view, long-touch/right-click the visualization you want to view snapshots for and select **Open snapshot library** in the shortcut menu.*

2. Click .
- Editing is enabled.
3. Select the snapshots you want to delete.



You cannot delete snapshots that belong to a published version of an app.

4. Click .
- The selected snapshots are deleted.
5. Click  to stop editing.

6. Click outside the library.
The library is closed.

You have now deleted snapshots from the library.

2.6 Building stories

The purpose of a story is to gather insight and build narratives from your data. You structure the story to convince your audience.

To achieve that, you take snapshots of your visualizations and put them in slides. To make your slides stand out you can apply visual effects, add text and shapes. You can also embed sheets to make your story interactive.



A story is connected to its app, so you can return to the live data anytime, to discover new and hidden stories.

Working with stories

In this section you will find how to work with stories. For instance, you can understand how to create, duplicate and change settings for a story.

Creating new stories

Do the following:

1. Click  to view the stories, from the app overview or sheet view.
2. Click  or **Create new story**.
A new story is created, with the title **My new story**.
3. Give your story a meaningful title and add a description, if you want.
4. Click outside the text area to save the title and description.

The new story is saved.

Editing stories

When you load data into an app you analyze the data to get new insights. You can present your new insights in a new story or in a edited version of an existing story. .

A snapshot's state and selections will not be updated at a data reload. It will always reflect the data that existed at the point in time the snapshot was taken. However, live data sheets are not static and will be affected by a data reload.

You can replace a snapshot of a visualization on a slide by going to its source, in the app. The visualization will now have updated data. You can take a new snapshot to use in your story.

When you take a snapshot you can make an annotation for your snapshot. The annotation helps you distinguish between the different snapshots in the snapshot library when you build your story. The annotation is not visible when you play the story.



If you want to keep the original story, make a duplicate of it before you start editing.



You can export the story if you want to present it outside of Qlik Sense.


Duplicating stories

You can duplicate any story, regardless of whether it belongs to the app or if you created it yourself. The purpose of duplicating stories is to save time by reusing content, and to modify the duplicate to fit your needs.

A duplicated story contains the same content as the original story, and is linked to the same snapshots. The duplicated story will not be updated if the original story is updated. Duplicated stories appear under **My stories** in app overview and in the story navigator.


Duplicating a story from app overview

Do the following:

1. Click  on the left-hand side to show the stories of the app.
2. Long-touch/right-click a story.
The shortcut menu opens.
3. Click **Duplicate**.

The new story is created. It is located under **My stories**.








You can also duplicate a story when you are in storytelling view, using the story navigator .

Changing the titles and descriptions of stories

You can change the title and description of your stories.

Do the following:

1. In the app overview, click  to view the stories.
2. Do one of the following:
 - If you are in grid view, , click the story title followed by clicking .
 - If you are in list view, , click .
3. Edit **Title** and **Description**.
4. Click outside the text area.

The changes you made are saved.










You can also change a story's title and description in the story navigator at the top right.

Changing the thumbnails of stories

You can replace the default thumbnail of a story with another thumbnail, to make it easier to distinguish between stories in the app overview and in the story navigator. You can use one of the default images, or an image of your own.

Do the following:

1. In the app overview, click  to view the stories.
2. Do one of the following:
 - If you are in grid view, , click the story title followed by clicking .
 - If you are in list view, , click .
3. Click  on the default thumbnail.
The **Media library** opens.
4. Click on a folder in the media library, for example **In app** or **Default**.
5. Select the image you want to use as a thumbnail for the story and click **Insert**.
6. Click  to stop editing.

The image you selected is now used as a thumbnail for the story, and is visible in the story navigator and in the app overview.



You can also change a story's thumbnail in the story navigator at the top right.



The optimal aspect ratio of a thumbnail is 8:5 (width:height).

The following formats are supported: .png, .jpg, .jpeg, and .gif.

For Qlik Sense: You can upload images to the **In app** folder in the media library. You need to use the Qlik Management Console to upload images to the default folder.

For Qlik Sense Desktop: You can place images in the following folder on your computer:


`C:\Users\<user>\Documents\Qlik\Sense\Content\Default`. Images will be available in the **default** folder in the media library. When moving an app between installations, the images that you use in the app are saved in the qvf file together with the app. When you open the app in a new location, for example Qlik Sense Cloud, the images will be in the **In app** folder in the media library for the app.



You can only add or change the thumbnail of an unpublished story.


Deleting stories

Do the following:

1. Click  to view the stories, from the app overview.
2. Long-touch/right-click the story you want to delete.
The shortcut menu opens.
3. Click **Delete**.
4. Click **Delete**, to confirm that you want to delete the story.

The story is deleted from the app.



You can also delete a story in the story navigator .

Working with slides



The purpose of slides in a story is to create a structure to your story.

In this section you will find how to work with slides, for instance by adding, reordering and deleting slides. You will find how to add a snapshot to a slide and how to reorder, resize and copy items on slides.

Adding a slide to a story

You can extend your story by adding one or more slides to it.

Do the following:


1. From the app overview or sheet view, click  to view the stories.
2. Click on the story you want to add the slide to.
The story opens in storytelling view with slide thumbnails visible in the story timeline.
3. Click  in the story timeline.

A new slide is added. You can now add contents to the slide, such as snapshots.

Adding a snapshot to a slide

You can add snapshots to a slide from your **Snapshot library**.

Do the following:


1. In storytelling view, click  in the story tools panel.
The **Snapshot library** is opened. The date stamp and any annotations helps you to distinguish between your snapshots.
2. Locate the snapshot you want to add and drag it onto the slide.
The snapshot snaps to the grid. You can use the keyboard arrows to move it freely.

The snapshot is placed on the slide.

Adding a live data sheet to a slide

You can add live data sheets to a story slide. When you insert a live data sheet to a story, the current selections of the app are saved with the selected sheet. Every time a live data sheet is viewed in a story, these selections will be applied.

Do the following:

1. In storytelling view, click  in the story tools panel.
A dialog opens.
2. Click the sheet you want to use in the story.

The live data sheet is added to a new slide.

Replacing a live data sheet on a slide

You can replace a live data sheet on a story slide.

Do the following:


1. In storytelling view, select a slide with a live data sheet in the story timeline.
A dialog opens.
2. Click the active sheet.
A new dialog opens.
3. Select a new sheet to insert.

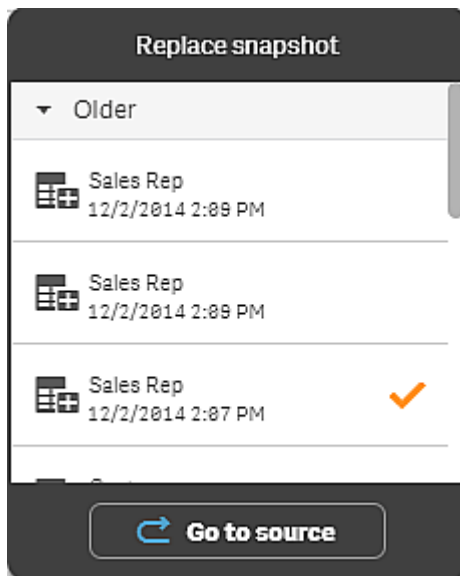
The selected sheet is added as a live data sheet on the slide.

Replacing a snapshot on a slide

You can replace a snapshot of a visualization on a slide. This is useful when you want to use another snapshot of the visualization, for example when new data is loaded into the app, if the visualization is changed or if new selections are made.

Do the following:

1. In storytelling view, select a snapshot on a slide and click .
The **Replace snapshot** dialog is opened and displays all snapshots of the originating visualization. The snapshot in use is marked with ✓. The date stamp and any annotations helps you to distinguish between your snapshots.
Replace snapshot view with Sales Rep snapshots.



You can navigate to the sheet and visualization which the snapshot originated from, by clicking **Go to source**. By doing this you get access to the live data of the snapshot, where you can make new selections and take new snapshots.

2. Select the snapshot you want to use.
The snapshot is updated and adapts to the size of the previous snapshot, using free resize which causes the visualization to use progressive disclosure.



Progressive disclosure means the following: If the size of a visualization (or a unlocked snapshot) is increased, its information is disclosed progressively. If the size of a visualization (or a unlocked snapshot) is decreased, its information is reduced, which allows you to focus on the essential information and avoid cluttering the visualization with too much information in too little space.


The snapshot is replaced on the slide.

Copying and moving items on story slides

You can copy and move items on the same story slide or between story slides. You can do this in different ways:



- Using the edit bar on the sheet (📄, ✂ and 📄).
- With the keyboard shortcuts Ctrl+C, Ctrl+X and Ctrl+V.



You can copy items between stories in the same app, but not between stories in different apps. Switch between stories using  in the toolbar.

Copying items

Do the following:



1. In storytelling view, click on the item you want to copy.
The item is highlighted.
2. Click .
3. To insert the item on another slide, switch to that slide.
4. Click .

The copied item is placed in front of any other items.

Moving an item to another slide

To move an item between two story slides you first cut it out from one slide and then paste it onto another slide.

Do the following:

1. In storytelling view, click on the item you want to move.
The item is highlighted.
2. On the edit bar, click .
3. Switch to the slide you want to move the item to.
4. Click .

The moved item is placed in front of any other items on the slide.

Duplicating a slide in a story

You can duplicate a slide in a story.

Do the following:

1. Click the story you want edit.
The story opens with slide thumbnails to the left.
2. Long-touch/right-click the slide that you want to duplicate.
3. Select **Duplicate**.

The duplicate slide is placed below the original slide.

Reordering items on a slide

When you are editing a story slide you can arrange and stack items on top of each other and decide the order in which the stacked items appear. This is useful when items overlap.

Reordering by one level

Do the following:

1. Long-touch/right-click the item you want to reorder.
The item's shortcut menu is opened.
2. Select **Bring forward** or **Send backward**.

The selected item is brought one level forward or sent one level backward.

Reordering to the front or the back

Do the following:

1. Long-touch/right-click the item you want to reorder.
The item's shortcut menu is opened.
2. Select **Bring to front** or **Send to back**.

The selected item is sent behind or brought in front of all the other items on the slide.

Reordering slides on the timeline

When you are editing a story you can move slides around on the timeline.

Do the following:

1. Long-touch/click and hold the slide you want to move on the timeline.
2. Drag the slide to a new location.

A gap will open up between the slides at the new location and the slide will be placed there.

Resizing items on a slide

You can resize an item on a slide by using its resizing handles. When you resize items such as images and text titles, they keep their aspect ratio. Paragraph texts and certain shapes can be resized more freely, both horizontally and vertically.

Snapshots can be resized in two different ways:

- Locked: keeping the aspect ratio.
- Unlocked: allowing free resizing and progressive disclosure.



Progressive disclosure means the following: If the size of a visualization (or a unlocked snapshot) is increased, its information is disclosed progressively. If the size of a visualization (or a unlocked snapshot) is decreased, its information is reduced, which allows you to focus on the essential information and avoid cluttering the visualization with too much information in too little space.

Resizing in general


Do the following:

1. In storytelling view, click on the item you want to resize.
2. Drag one of the resizing handles to resize the item.
The item snaps to the grid.
3. Release the resizing handle.

The item is resized.

Deleting items from a slide

Do the following:

1. In storytelling view, click on the item you want to delete.
The item is highlighted.
2. On the edit bar, click .

The item is deleted from the slide.



*You can also delete an item by selecting **Delete** from the item's shortcut menu.*

Deleting slides from stories

Do the following:

1. Long-touch/right-click the slide you want to delete on the timeline, while in storytelling view.
The slide's shortcut menu is opened.
2. Click **Delete slide**.

The slide is deleted from the story and the timeline.

2.7 Making stories compelling

To make your story convincing, you can add emphasis to your insights. Make sure that you add text, images, and shapes to your story slides. You can even apply effects to your snapshots to get your data to stand out.

Adding emphasis

You can add emphasis to your insights to make them clear and engaging for your audience. You do this by adding effects to your snapshots to highlight certain data points, and at the same time suppressing information that might be irrelevant. In this way, the effects help you reduce information overload for your audience so that they can focus on the key insights you want to present to them.

In this section you find topics that will help you emphasize your insights, for instance how to apply various effects to a snapshot and how to highlight data points in a snapshot.

Another way to emphasize an insight and to reduce information overflow is to hide information. For example you could change a snapshot's appearance so that elements such as titles, axes, data point lines, footnotes, legends, and so on, are hidden.

Applying an effect to a snapshot

You can add different visual effects to your snapshots to make certain values stand out.



You can only use effects on bar charts, line charts, and pie charts.

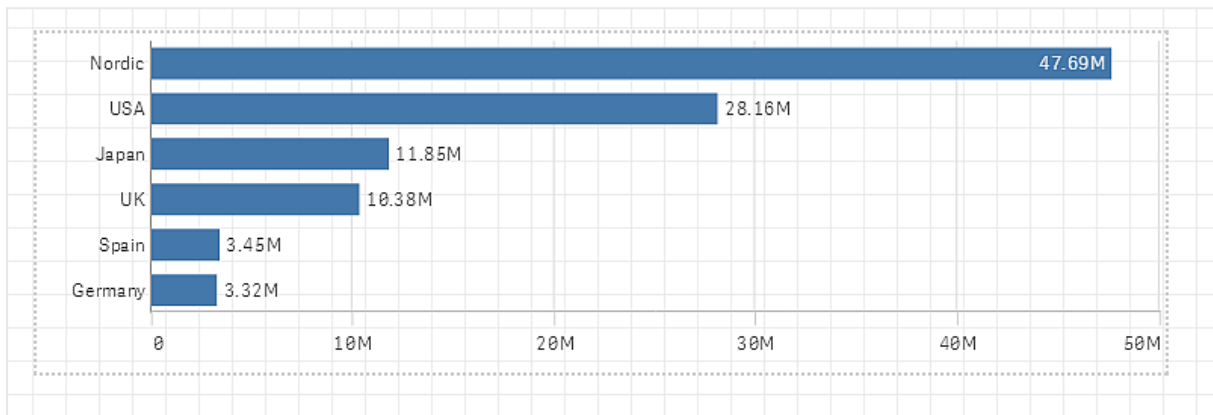
Do the following:

1. In storytelling view, click  in the story tools panel.
The effects library is opened.

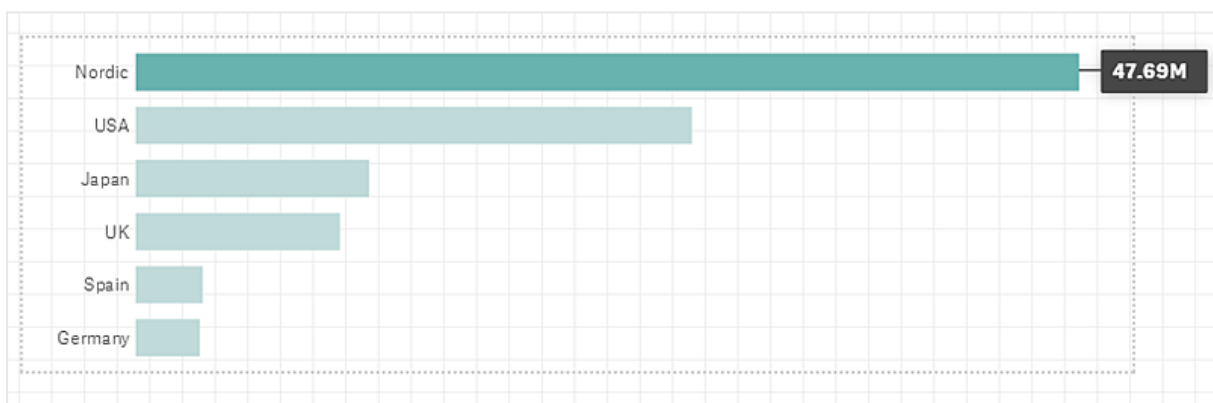
2. Locate the effect you want to use and drag it onto the snapshot.

The snapshot is shown with the visual effect.

Snapshot of a bar chart without effects.




*Snapshot of a bar chart with the effect **Highest value** applied to it.*



Highlighting data points in a snapshot

For a snapshot with the effect **Any value** applied to it, it is possible to select a certain data point to highlight.

Do the following:

1. In storytelling view, on a slide, select a snapshot with the applied effect **Any value**.
2. Click  in the snapshot.
A dialog with a list of data points appears.
3. Click one of the data points in the list.



You can also click directly on the data points in the snapshot.

4. Click outside the snapshot.

The selected data point is now highlighted in the snapshot.

Removing an effect from a snapshot

Do the following:

1. In storytelling view, right-click on the snapshot with the effect you want to remove.
A shortcut menu appears.
2. In the shortcut menu, click **Remove effect**.

The effect is removed from the snapshot.

Styling with text and shapes



To make your stories compelling you can add stylistic elements. Text, hyper links and shapes are good examples.

In this section you will find topics that help you style your insights. You can add and format elements by size, color, font style and more.

Adding text to slides

You can add different styles of text to a story slide.

Do the following:

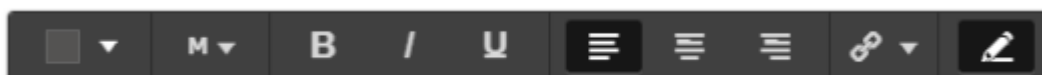
1. Click **A** in the story tools panel, in storytelling view.
The **Text objects** dialog is opened.
2. Locate the text style you want to add and drag it onto the slide.
The text object is placed on the slide and snaps to the grid. You can use the keyboard arrows to move it freely.
3. Double-click on the text object or click .
4. Type your text.
5. Click outside the text object or click .

The text is saved.

Formatting text on slides

On a story slide you can change the format of your texts with the text formatting toolbar. You can change color, size, font style, and text alignment. Additionally, you have options for adding links and bookmarks.



Text formatting toolbar for paragraph text object.



To enable a text object for formatting, you double-click on it.

Changing font styles



Do the following:

1. Double-click on the text object you want to format, while in storytelling view. Or, click on the text object and click .
- The text formatting toolbar appears.
2. Select the text you want to style.
3. Click one or more of **B**, *I* and U.
4. Click outside the text object or click .

The font style of the text is changed.

Changing font size of paragraphs


Do the following:

1. Double-click the **Paragraph** text object you want to format, while in storytelling view. Or, click on the text object and click .
- The text formatting toolbar appears.
2. Select the text you want to resize.
3. Click ▼ next to the font size indicator and select a size: XS, S, M, L or XL.
4. Click outside the text object or click .

The font size of the text is changed.

Changing font size of titles






Do the following:

1. Click the **Title** text object you want to format, while in storytelling view.
2. Drag one of the corners to change the font size.
3. Click outside the text object or click .

The font size of the text is changed.

Changing text alignment of paragraphs

Do the following:

1. Double-click the **Paragraph** text object you want to format, while in storytelling view. Or, click on the text object and click .
- The text formatting toolbar appears.
2. Click in the text paragraph you want to align.
3. Click ,  or .
4. Click outside the text object or click .



The text alignment is changed.



By default, the text is left-aligned.

Changing text color

Do the following:


1. Double-click the text object you want to format, while in storytelling view. Or, click on the text object and click .
The text formatting toolbar appears.
2. Select the text you want to change color on.
3. Click ▼ next to the color indicator in the toolbar.
A color palette appears.
4. Click on a color in the palette.
5. Click outside the text object or click .

The color is applied to the text.

Adding a shape to a slide

You can add different types of shapes on a slide.

Do the following:

1. In storytelling view, click  in the story tools panel.
The shapes library is opened.
2. Locate the shape you want to use and drag it onto the slide.
The shape is placed on the slide and snaps to the grid. You can use the keyboard arrows to move it freely.

The shape is placed on the slide.

Formatting shapes on a slide

Using the shapes formatting toolbar you have the following options to format your shapes:

- Color

Changing the color of a shape

Do the following:

1. In storytelling view, click the shape you want to format.
A toolbar with color options appears.
2. Click the color square in the toolbar.
A color palette appears.
3. Click a color.
4. Click outside the shape.

The color is applied to the shape.


Adding bookmarks on slides

Via the text formatting toolbar, there is a link option where you can add bookmarks inside a text object.

Adding bookmarks

You can mark a text paragraph and use it as a bookmark.

Do the following:


1. Double-click the text object you want to add the bookmark in, while in storytelling view.
The text formatting toolbar appears.
2. Select the text paragraph that you want to use as a bookmark.
3. Click  .
A dialog opens.
4. Click **Bookmarks** on the right and select a bookmark from the list.
5. Click outside the text.

The bookmark is added.

Adding an image to a slide

You can add an image to a story slide. You can use one of the default images, or an image of your own.

Do the following:

1. In storytelling view, click  in the story tools panel.
The **Media library** opens.
The following formats are supported: .png, .jpg, .jpeg, and .gif.

For Qlik Sense: You can upload images to the **In app** folder in the media library. You need to use the Qlik Management Console to upload images to the default folder.

For Qlik Sense Desktop: You can place images in the following folder on your computer:

C:\Users\<user>\Documents\Qlik\Sense\Content\Default. Images will be available in the **default** folder in the media library. When moving an app between installations, the images that you use in the app are saved in the qvf file together with the app. When you open the app in a new location, for example Qlik Sense Cloud, the images will be in the **In app** folder in the media library for the app.

2. Click on a folder in the media library, for example **In app** or **Default**.
3. Select the image that you want to add to the slide.
A preview of the image is shown.
4. Click **Insert**.



*Alternatively, long-touch/right-click the image file you want to add and select **Insert**.*

The image is added and snaps to the grid. You can use the keyboard arrows to move it freely.



If the image is larger than the width or height of a slide, it will be re-sized to fit on the slide.


Adding links on slides

Via the text formatting toolbar, there is an option for adding a link inside a text object.

Adding links


You can mark a text paragraph and use it for a link.

Do the following:

1. Double-click the text object you want to add the link in, while in storytelling view.
The text formatting toolbar appears.
2. Select the text paragraph that you want to use for the link.
3. Click 
A link dialog opens.
4. Type the web address that you want to link to, in the **Link to** field.



If you do not add a prefix, `http://` is added automatically, assuming that you are adding a web address.



5. Click  or press Enter, to apply the new link.
6. Click outside the text.

The link is added.

Removing links

You can remove a link from a text paragraph.

Do the following:

1. Double-click the text object you want to remove the link from, while in storytelling view.
The text formatting toolbar appears.
2. Click the link so that the cursor is somewhere inside it.
3. Click 
A link dialog opens.
4. Click 
5. Click outside the text.

The link is removed, but the text paragraph is kept.

Changing a snapshot's appearance


One way to make insights stand out and help you getting your message through in a clear way is the possibility to hide, or show, certain parts of a snapshot.

Changing snapshot properties

The following list summarizes the editable properties:

- Titles (main title, subtitle and footnote)
- Grid line spacing
- Labels (data point labels, leaf labels, dimension labels)
- Legend
- X-axis with title and labels
- Y-axis with title and labels

Do the following:

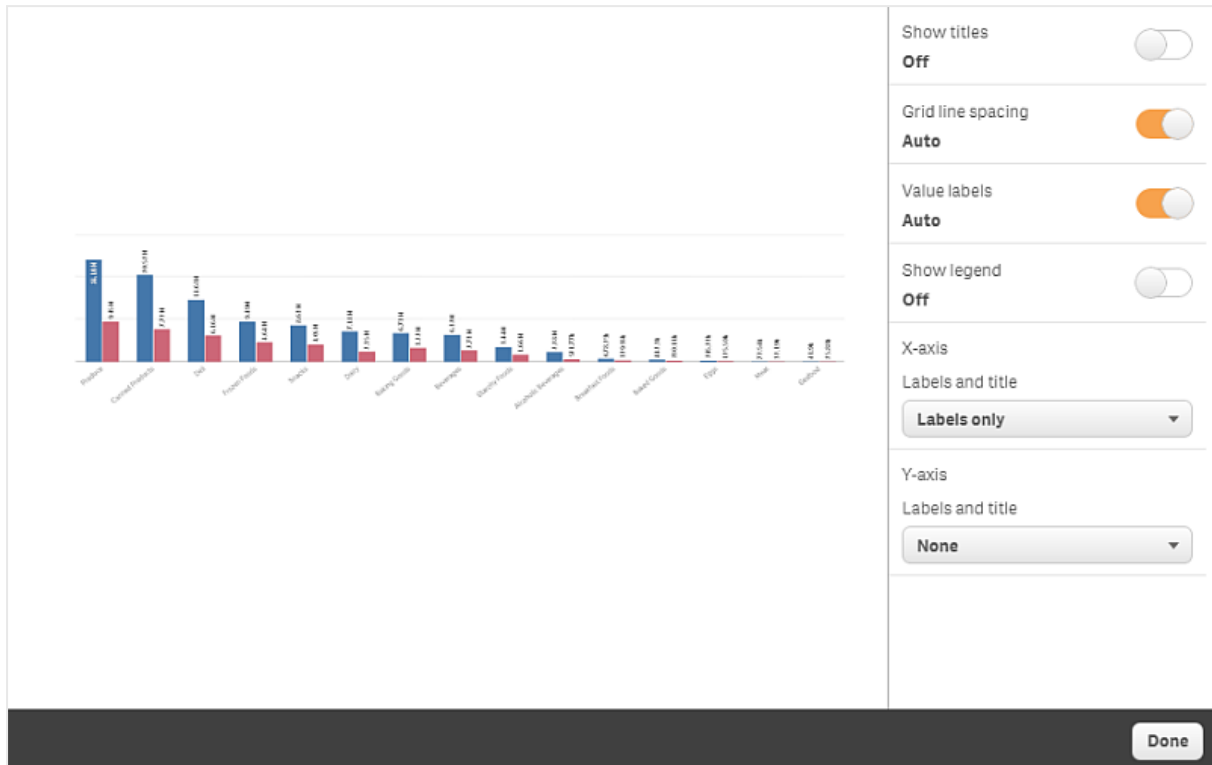
1. In storytelling view, click the snapshot you want to edit.
2. Click .
A dialog where you can change the snapshot's appearance is opened.
3. For **Show titles** click either **On** or **Off** to show or hide main title, subtitle and footnote.
4. For **Grid line spacing** you can set the spacing of the grid lines to **Auto** or **Custom** and select one of the options **No lines**, **Wide**, **Medium** or **Narrow** from the drop-down list.
5. For **Value labels** click either **Auto** or **Off**.
6. For **Show legend** click either **Auto** or **Off**.
7. For **x-axis** and **y-axis Labels and title**, select one of the options **Labels and title**, **Labels only**, **Title only** or **None** from the drop-down list.
8. Click **Done**.

The snapshot's appearance has changed.



If you select auto and the property is not shown, you need to increase the size of the snapshot.

A snapshot dialog with grid lines and only the x-axis and the data labels visible.






Changing the aspect ratio when resizing a snapshot

When you resize a snapshot you can choose to unlock the aspect ratio to enable free resize. Then the resize causes the visualization to use progressive disclosure.




Progressive disclosure means the following: If the size of a visualization (or a unlocked snapshot) is increased, its information is disclosed progressively. If the size of a visualization (or a unlocked snapshot) is decreased, its information is reduced, which allows you to focus on the essential information and avoid cluttering the visualization with too much information in too little space.

Do the following:

1. In storytelling view, click the snapshot you want to resize.
2. Click  to unlock the aspect ratio for free resize.
 is displayed.
3. Use the handles on the edges to resize the visualization.
The resize causes the visualization to use progressive disclosure.
4. Click  to lock the aspect ratio.

You now have changed the aspect ratio in the snapshot and resized the visualization.



If you resize the visualization when  is displayed, the image is resized without progressive disclosure.

2.8 Presenting stories

While building your story you can see how it looks and behaves for an audience, by playing it. It will occupy the whole browser view. You can see what your snapshots, live data sheets, texts, shapes, and visual effects look like.


If your audience asks questions, you can access the live data of your snapshots and your live data sheets. This way, you can find hidden stories to present, steering your story to new directions.

Playing a story

You can play a story as it would be presented to an audience. There are controls for you to navigate back and forth through the slides. On a slide with a live data sheet inserted, you must first click the sheet before you can start making selections in it.

Entering play

Do the following:

- In storytelling view, click .

The story is opened in the full browser view and is ready to play on the current slide.



*You can also start playing a story by long-touching/right-clicking it in the app overview or the story navigator, and selecting **Play** from the shortcut menu.*



On a touch device you can zoom in and out on the slide by using the pinch touch gesture. When you zoom in, you cannot make selections in live data sheets.


Showing data point information

Do the following:

- Hover over a data point to display a tooltip with data point information.




Showing slide number

Do the following:

- Click  at the bottom of the slide to show which slide you are currently viewing and the total number of slides in the story: <current slide number> **of** <total number of slides>.

Navigating between slides

Do the following:

1. Click  at the bottom of the slide.
2. Click  and  to navigate between the slides.



On a touch device you swipe the slide left or right. On a computer you can use the keyboard arrow keys or the space key.

Interacting with a live data sheet

To interact and make selections in a live data sheet you need to click somewhere on the sheet first.

Do the following:

- Click on the live data sheet.



The sheet is now possible to make selections.



You disable the possibility to make selections by clicking outside the live data sheet, or by navigating to another slide.


Exporting a story

Do the following:

1. Click  at the bottom of the slide.
 2. Click .
- The **PowerPoint settings** dialog opens.

Closing play

Do the following:

- To close play either click  or press Esc.

Accessing the live data of a snapshot

From a snapshot (on a story slide) you can navigate to the sheet and visualization it originated from. By doing this you get access to the live data of the snapshot where you can make new selections to take your story in new directions.

Do the following:

1. In storytelling view, navigate to a story slide with a snapshot.
2. Long-touch/right-click the snapshot.

The snapshot's shortcut menu is opened.

3. Select **Go to source**.

You are directed to the sheet where the snapshot originated from. And the visualization which the snapshot was taken of, is initially highlighted.



A snapshot shows data according to the access rights of the user who takes the snapshot, and the snapshot can then be shared in a story. However, when users return to a visualization from a story to see the live data in the app, they are restricted by their own access rights.



*If the visualization that the snapshot came from is no longer available, you are still directed to the originating sheet. If the whole sheet where the visualization was placed on is no longer available, you stay in storytelling view and get an error message stating **Sheet is missing**.*



You can also access a snapshot's live data while playing the story.

Accessing a sheet from a slide

When you play a story, you can navigate from a live data sheet to the sheet in sheet view. By doing this you get access to the original sheet with your selections applied to it. You can then make new selections to take your story in new directions.

Do the following:

1. While playing the story, navigate to a story slide with a live data sheet.
2. Click **Go to sheet**.


You are directed to the sheet in sheet view carrying with you the selections you have made on the live data sheet.

Selecting in a live data sheet

When you play a story you can make selections in live data sheets just as you can in a sheet in sheet view.

Enable selections

Do the following:

1. In storytelling view, click  above the timeline.
2. Navigate to a slide with a live data sheet.
3. Click on the sheet to enable it for selections.
The sheet is possible to interact with.
4. Start making selections in the visualizations.

The visualizations respond to selections and filter out subsets of the data.



You disable the possibility to make selections by clicking outside the sheet, or by navigating to another story slide.

When you are playing a story on a small screen you must go to sheet view to view the sheet and make selections.

Reset selections

You can reset the selections you have made on the live data sheet.

Do the following:

- While playing the story and with some selections made on a live data sheet, click **Reset selections**.

The sheet's selections will be reset to the same selections it had at the time you inserted the live data sheet on the slide.



The reset gives you the possibility to always return to the same selections as when you inserted the live data sheet on the slide.

2.9 Troubleshooting - Using data storytelling

This section describes problems that can occur when using data storytelling in Qlik Sense.

I cannot edit a story

I want to make changes to a story but I cannot edit it.

Possible cause

The story is published.

Proposed action

If you created the story, unpublish the story to enable editing.

For more information, see *Unpublishing a story (page 45)*.

Proposed action

If you did not create the story, make a duplicate of the story to enable editing. The duplicated story will not be updated if the original story is updated.

For more information, see *Duplicating stories (page 13)*.

A sheet is missing

When I play a story a sheet is missing.

Possible cause

The sheet has been deleted.

The sheet is private (located in another user's **My sheets**).

Proposed action

If the sheet is private, ask the owner of the sheet to publish it.

For more information, see *Publishing (page 35)* and *Publishing a sheet (page 42)*.

I cannot change a snapshot's appearance

I want to use auto for a snapshot property but the snapshot's appearance is not affected.

Possible cause

The snapshot is too small.

Proposed action

In storytelling view, increase the size of the snapshot.

For more information, see *Resizing items on a slide (page 19)*.

I cannot add a link inside a text object

I want to add a link inside a text object but the link is not working.

Possible cause

You are using Internet Explorer 10 or 11. This means that you cannot copy and paste links from external sources. The formatting is lost when links are pasted into text objects.

Proposed action

Use another web browser and add the link.

For more information, see *Adding links on slides (page 26)*.

I cannot take a snapshot

I want to take a snapshot but it is not possible.

Possible cause

The visualization you are trying to take a snapshot of is incomplete.

The visualization you are trying to take a snapshot of is an extension. Extensions do not have enabled snapshot functionality by default.

The visualization you are trying to take a snapshot of is a filter pane. Snapshots of filter panes are not supported.

Proposed action

Complete the visualization.

Enable snapshot functionality in the main script of the visualization extension. To do this you have to set the snapshot property to true. You need permission to edit the script or need to get help from a developer.

I cannot re-order slides in a story

I want to move a slide in the story timeline but it is not possible.

Possible cause

You are using the mouse on a hybrid device.

Proposed action

Do one of the following:

- Turn touch device support off in the global menu (☰).
- Hold the mouse button pressed for a while before moving the slide.
- Alternatively, use the touch screen instead and move the item by long-touch and drag.

The data in my snapshot does not exist in the visualization

When I go to the snapshot source, I cannot see the same data in the visualization as in the snapshot.

Possible cause

The user taking the snapshot has access to data you do not. This is because of section access rights defined in the data load script.

Proposed action

Request the same section access rights for you in the script.

3 Publishing

Publishing is a way to share the content of an app. You publish an app to a stream.

Those who have access rights to a stream can analyze data by interacting with the visualizations in the app.

You can also publish an app to a collection, making it available to users outside of your Qlik Sense Enterprise deployment.

Typically, you publish an app when you have stopped working on the design. Designing an app includes creating the visualizations, and organizing the presentation of the app. You can republish a published app to update it with new content.

When you publish an app, it is locked. Others cannot edit your published sheets and stories, but they can use them to interact with and analyze the data. New sheets and stories can be approved for inclusion in the base sheets and stories of a published app. This enables the collaborative design content in a published app.

In Qlik Sense Enterprise, your administrator can publish apps from the Qlik Management Console. The owners of an app can also publish their apps from the hub and move their published apps between streams. All published apps are evaluated by distribution policies set up by your Qlik Sense administrator. These policies determine whether or not the app will be distributed for consumption in a Qlik Sense Enterprise cloud hub.

Additionally, in Qlik Sense Enterprise, reports can be distributed from Qlik NPrinting to the Qlik Sense Enterprise hub. A link to a QlikView document can also be published in the Qlik Sense Enterprise hub.



This functionality is not available in Kubernetes.

3.1 Publishing workflow

Depending on your Qlik Sense Enterprise deployment, there are different ways to develop and publish apps.

You can develop an app by yourself and then publish it to a stream to make it available to consumers. If you are developing apps collaboratively, you can publish an app to a stream where reviewers and collaborators can add sheets and stories. You can then include these sheets and stories in the base content of your app before publishing it to a stream for consumers.

If your deployment also includes Qlik Cloud Services or Qlik Sense Enterprise on Kubernetes, you can also publish apps to collections. Collections are accessible through cloud hubs in these deployments. Collections allow your apps to be consumed by users outside of your Qlik Sense Enterprise deployment.



This functionality is not available in Kubernetes.

The following is a sample workflow for developing and publishing apps.

Publish your app to a Qlik Sense Enterprise review stream.

When you have created a data-model and created visualizations in your app, you can publish to a stream dedicated for reviews so that other Qlik Sense Enterprise hub users can access, collaborate, and provide feedback.

Manage the collaborative development of the published app.

Once the app is in the review stream, other developers can add sheets and stories to the app. Sheets and stories are private by default. However, developer can publish them as community sheets and stories to make them available to other users.

As the app owner, you can add community sheets and stories to the base sheets and stories of your app. This enables the sheets and stories to be included when the app is duplicated or exported.

Manage your app properties.

Qlik Sense administrators can create custom properties that are used for tasks such as limiting access to the app to certain users or groups. You can add these custom properties to your app in the hub.

Move your published app to a consumption stream.

When you have completed the review and collaborative development of the app, you can move your published app to a consumption stream, where the target consumers can access the app.

Optionally publish the app to a cloud hub.

If your deployment contains Qlik Cloud Services or Qlik Sense Enterprise on Kubernetes, you can make your app available to viewers outside of Qlik Sense Enterprise by publishing to a cloud hub.

Republish the app.

Optionally, republish the app to make any necessary updates to the published app, such as new base sheets or updates to the data model.

Retire the app to an archive stream.

When the app is no longer required, you can remove it from the consumption stream to an archive stream.

If the app is published to a cloud hub, remove it from the cloud hub.

3.2 Publishing to Qlik Sense Enterprise streams

The Qlik Sense Enterprise administrator publishes apps to a stream from the Qlik Management Console. The sheets and stories in the app are then available to the users that have access to the stream. You can publish your own apps from the hub, to a stream which you have publish access to. You can also move your published apps between streams from the hub.

An app that has been published to a stream is locked, although the owner of a published app can edit the thumbnail, app name, and the description of their published app. Others can interact with the visualizations and analyze the data. However, no one can edit the base sheets and base stories that were published with the app. If you have the correct access rights, you can add your private sheets and stories to a published app.

If you own a published app, you can add your private sheets and stories to a published app, and approve your own and community sheets for inclusion in the base sheets of an app. You cannot edit the base sheets and base stories of the app, but you can make them private sheets and stories if you want to edit them.

If a published app needs to be changed, it can be republished, updating the published app with content from a duplicate.



This functionality is not available in Kubernetes.

Streams

The content in the hub is organized in streams. A stream is a collection of apps that a group of users has specific access to. The users of the stream can have different access rights. Some users might only be able to read the content in the stream, while others might have the rights to publish their content to the stream.

By default, Qlik Sense includes a stream called Everyone, which all users have both read and publish rights to.

All users have their own spaces, **Work** and **Published**, for the content they own. **Work** contains personal unpublished apps. **Published** contains links to your published apps. These links enable you to keep track of your published work and perform tasks such as moving or duplicating a published app more easily.

The read and publish rights on the streams are defined in the Qlik Management Console.

You can use a duplicate of a published app to use as a template for a new one.

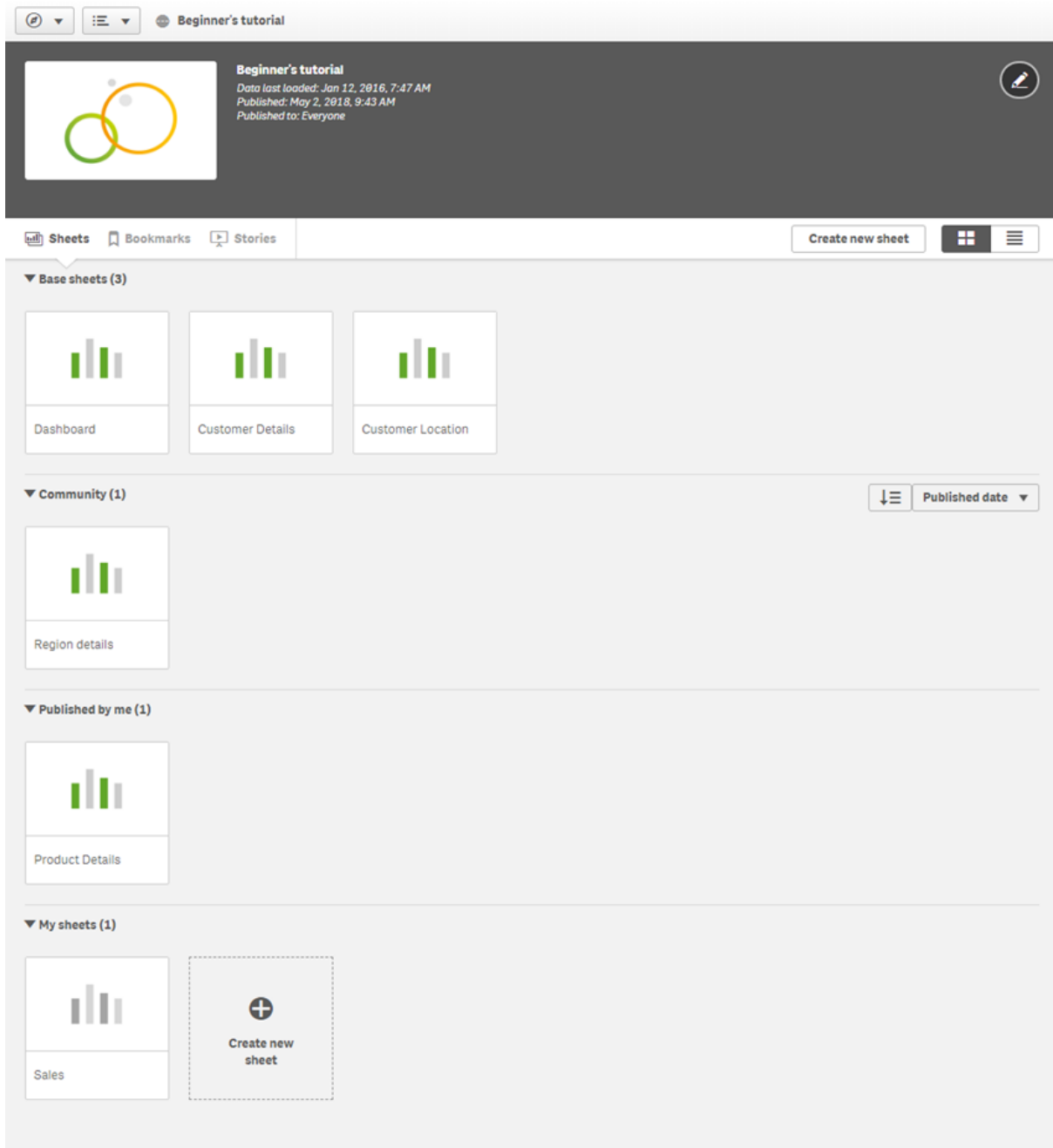
You can move your own apps from the hub between streams to which you have publish access.

Sheets and stories

You can create private sheets and stories as a part of a published app. These sheets and stories can be published as part of the app. Published sheets and stories can be added to base sheets of an app by the app owner. You can also remove base sheets and stories from your app and make them published sheets and stories.

When working with a published app, sheets and stories are organized in sections in the app overview depending on their status.

Beginner's tutorial's sheet view with four sections; Base sheets, Community, Published by me and My sheets.



Sheet view sections

Section	Description
Base sheets / Base stories	Sheets and stories that were included in the app when it was published or republished, or added to the base sheets and stories of the app after it was published.. All users of the app have access to these.
Community	Sheets and stories that someone else has created and published to the app that you have access to. Sheets and stories in this section can be added to base sheets and stories.

Section	Description
Published by me	Sheets and stories that you have created and then published so that all the users of the app can access them. The other users will find these in their Community section. Sheets in this section can be approved for inclusion in base sheets.
My sheets / My stories	Sheets and stories that you have created but not published. No one else can see these.

Interacting with apps

The tasks that you can perform in an app depend on whether or not that app has been published.

Unpublished app

You can:

- Edit the load script and reload the data.
- View the data structure and details about the data from the data model viewer.
- Create, edit, and delete sheets, visualizations, and bookmarks.
- Create master items (dimensions, measures, and visualizations) for reuse.
- Navigate between sheets, stories, and bookmarks.
- Make and clear selections.
- Apply/recall bookmarks.

Published app

You can:


- Navigate between sheets.
- Explore sheets and visualizations that were included in the app from the beginning.
- View stories that were included in the app from the beginning.
- Create and edit your own private sheets, visualizations and stories based on the data in the app.
- Publish sheets and stories that you have created so that others can use them.
- Unpublish sheets and stories that you have published so that they become private again.
- Update your private sheets
- Add published sheets and stories to the base sheets and stories.
- Remove sheets and stories from the base sheets and stories.
- Copy and paste visualizations between sheets.
- Use master items (dimensions, measures and visualizations) that were included in the app from the beginning.
- Create and edit your own private bookmarks.
- Make and clear selections.
- Apply/recall bookmarks.
- Access the data model viewer, if you are the owner of the app with the default permissions.

You cannot:

- Edit the load script or reload the data.
- Access the data model viewer if you do not own the app.
- Edit visualizations, sheets, stories and bookmarks that were included in the app from the beginning.
- Edit sheets and stories that have been published.

Publishing an app from the hub

You can publish an app that you have created to any stream to which you have publish access. If you have published an app to a stream, you can move your app between streams to which you have publish access.

When you publish an app to a stream, the app is added to that stream. A link to that app is also added to **Published** and marked with  to indicate the app is in a stream. This enables you to keep track of your published work and perform tasks such as moving or duplicating a published app more easily. When publishing an app, you can also add or remove app properties created by your Qlik Sense administrator to your app. For information on app properties, see *Managing app properties (page 41)*.

When you publish an app or move a published app between streams, the sheets and stories of the app will become available to the other users that have access to the stream that your published app belongs to.

A published app can only be deleted from the QMC.



This functionality is not available in Kubernetes.



To avoid exposing restricted data, remove all attached files with section access settings before publishing the app.

Attached files are included when the app is published. If the published app is copied, the attached files are included in the copy. However, if section access restrictions have been applied to the attached data files, the section access settings are not retained when the files are copied, so users of the copied app will be able to see all the data in the attached files.

Do the following:

1. In **Work** in the hub, long-touch/right-click the app and do one of the following:
 - Select **Publish**.
 - Select **Move**.
2. Select the stream you want to publish the app to, in the **Stream name** drop-down list.



There is no drop-down if you only have access to one stream.

3. Type a name in the **App name** field (optional). The field displays the name of the app you selected from the hub.



It is possible to publish many apps with identical names in a stream. Qlik Sense will indicate when there are published apps with the same name in a stream.

4. If you want to add app properties, click **Manage**, select app properties, select the values, and click **Apply**.
5. Click **Publish** or **Move**.

The published app is now in the selected stream. An entry for the published app is added to **Published** that links to the published app in its new stream. .

If you publish or move an app into a stream they are currently viewing, they will be notified and can update the app list for their stream.

Republishing an app from the hub

After you publish an app to a stream, you may need to make changes to the base content of the app without removing the app from the stream. For example, you might want to continue working on and improving an already published app without losing the community and private content in the published app. To republish an app, you need to duplicate your published app. The duplicate app contains a link to the original app. You then make your changes to the duplicate app and republish it back to the same stream as the published app.

All content in the base section is overwritten with the content from the duplicate when republishing. Content in the original app, such as private and community sheets and stories, are kept when you republish an app.

You can also republish an app from QMC.



This functionality is not available in Kubernetes.

Do the following:

1. In **Work**, right-click the duplicated app and select **Publish**
2. Select **Replace the existing app**.
3. Click **Republish**.

Managing app properties

Your Qlik Sense administrator can create custom properties in QMC for apps. These properties can be used for tasks such as creating a distribution policy limiting access to apps. An administrator might create a custom property for users or groups and then add the names of the users or groups as values to that property. You can apply these custom properties and specific values from these properties to apps in **Work** and in streams, as well as when you are publishing or moving apps.





This functionality is not available in Kubernetes.



You can add app properties to an unpublished app, but they may not be applied depending on the custom properties settings, which are controlled by your Qlik Sense administrator.

You can view the app properties in the **Manage properties** dialog and from the app details.

Do the following:

1. In the hub, right-click on an app and select **Manage properties**.
You can also access **Manage properties** from the app details. Click  on an app and then click **Manage**.
2. Do one of the following:
 - To add properties to your app, select an app property and then select values from that property. You can search for values
 - To remove app properties, clicking  on the property value.
3. Click **Apply**.

Publishing a sheet

You can publish sheets that you have created, so that other users can view them.




You can only publish sheets as a part of an app that is already published.



This functionality is not available in Kubernetes.


Do the following:

1. From the app overview, click  to view the sheets.
2. Long-touch/right-click the sheet you want to publish and select **Publish**.
The **Publish sheet** dialog appears.
3. Click **Publish**.

The sheet is published and moved from **My sheets** to **Published by me**.

Other users, with access to the same app, will find the published sheet in their **Community** section.



*You can also publish a sheet in the sheet view by clicking  and selecting **Publish sheet**, or by long-touching/right-clicking a sheet in the sheet navigator.*


Unpublishing a sheet

You can revert a sheet that you have published to being unavailable to others by unpublishing it.




This functionality is not available in Kubernetes.

Do the following:

1. From the app overview, click  to view the sheets.
2. Find the published sheet under **Published by me**.
3. Long-touch/right-click the sheet and select **Unpublish**.
The **Unpublish sheet** dialog appears.
4. Click **Unpublish**.
The sheet is unpublished and moved from **Published by me** to **My sheets**.

The sheet is no longer available to other users of the app.



*You can also unpublish a sheet in the sheet view by clicking  and selecting **Unpublish sheet**, or by long-touching/right-clicking a sheet in the sheet navigator.*

Adding sheets to the base sheets of an app

You can approve published sheets, both published sheets owned by you or community sheets, to add them to the base sheets of the app. Sheets added to the base sheets, unlike published sheets, are included when an app is duplicated or exported. Adding sheets to your base sheets enables you to collaboratively develop the base sheets of your app.




This functionality is not available in Kubernetes.

Do the following:

- In your app, right-click on a community sheet or one of your published sheets and select **Approve**.

The sheet is now included in the base sheets of the app.



*You can also add a sheet in the sheet view by clicking  and selecting **Approve**, or by long-touching/right-clicking a sheet in the sheet navigator.*

Removing sheets from the base sheets of an app

You can remove base sheets from your app, both those originally in the app and those approved for inclusion in the base sheets. When you remove a base sheet, it is moved to the **Published by me** section of the app if the sheet was published by you or the **Community** section if it was published by another user. If the sheet belonged to another user, they will become the owner again. A sheet removed from the base sheets is not included if the app is duplicated or exported.




This functionality is not available in Kubernetes.

Do the following:

- In your app, right-click a base sheet and select **Unapprove**.

The sheet is moved to the **Published by me** section or the **Community** section.



*You can also remove a sheet in the sheet view by clicking  and selecting **Unapprove**, or by long-touching/right-clicking a sheet in the sheet navigator.*

Publishing a story

You can publish stories that you have created, so that other users can view them.




You can only publish stories as a part of an app that is already published.



This functionality is not available in Kubernetes.


Do the following:

1. From the app overview, click  to view the stories.
2. Long-touch/right-click the story you want to publish and select **Publish**. The **Publish story** dialog appears.
3. Click **Publish**.

The story is published and moved from **My stories** to **Published by me**.

Other users, with access to the same app, will find the published story in their **Community** section.



*You can also publish a story in the storytelling view by clicking  and selecting **Publish story**, or by long-touching/right-clicking a story in the story navigator.*


Unpublishing a story

You can revert a story that you have published to being unavailable to others by unpublishing it.




This functionality is not available in Kubernetes.

Do the following:

1. From the app overview, click  to view the stories.
2. Find the published story under **Published by me**.
3. Right-click/long-touch the story and select **Unpublish**.
The **Unpublish story** dialog appears.
4. Click **Unpublish**.
The story is unpublished and moved from **Published by me** to **My stories**.

The story is no longer available to other users of the app.



*You can also unpublish a story in the storytelling view by clicking  and selecting **Unpublish story**, or by long-touching/right-clicking a story in the story navigator.*

Adding stories to the base stories of an app

You can approve published stories, both published stories owned by you or community stories, to add them to the base stories of the app. Stories added to the base stories, unlike published stories, are included when an app is duplicated or exported. Adding stories to your base stories enables you to collaboratively develop the base stories of your app.




This functionality is not available in Kubernetes.

Do the following:

- In your app, right-click on a community story or one of your published story and select **Approve**.

The story is now included in the base stories of the app.



*You can also add a story in the storytelling view by clicking  and selecting **Approve**, or by long-touching/right-clicking a story in the story navigator.*

Removing stories from the base stories of an app

You can remove base stories from your app, both those originally in the app and those approved for inclusion in the base stories. When you remove a base story, it is moved to the **Published by me** section of the app if the stories was published by you or the **Community** section if it was published by another user. If the story belonged to another user, they will become the owner again. A story removed from the base stories is not included if the app is duplicated or exported.




This functionality is not available in Kubernetes.

Do the following:

- In your app, right-click a base story and select **Unapprove**.

The story is moved to the **Published by me** section or the **Community** section.



*You can also remove a story in the story view by clicking  and selecting **Unapprove**, or by long-touching/right-clicking a story in the story navigator.*

3.3 Publishing to Qlik Sense Enterprise streams for Qlik Sense Mobile

Qlik Sense apps and mashups that are published to a stream in Qlik Sense Enterprise are available for viewing in the Qlik Sense Mobile app.

Users that have installed the Qlik Sense Mobile app can interact with the Qlik Sense app in the stream, provided they have the appropriate access privileges.

Typically, Qlik Sense apps are developed in a web browser connected to a Qlik Sense Enterprise server. When your Qlik Sense administrator publishes an app or a mashup, it will also be available in the Qlik Sense Mobile app. Qlik Sense November 2018 is required to access mashups from the Qlik Sense Mobile app.

Your administrator configures access privileges in the QMC. Additionally, your administrator can configure whether or not a Qlik Sense app can be downloaded from a stream in the Qlik Sense Mobile app. When you download Qlik Sense, it is also available for viewing when you are offline.



The download of Qlik Sense apps for offline access is supported only on Qlik Sense Mobile app for iOS, and on Qlik Sense Mobile for BlackBerry app.

You do not need to install the Qlik Sense Mobile app to be able to publish for the mobile app. However, we recommend testing all Qlik Sense apps in the mobile app, if that is where the app will be used.



This functionality is not available in Kubernetes.

3.4 Publishing to cloud hubs

If you want to make your apps available to users who do not have access to the Qlik Sense Enterprise hub, you can publish them to a cloud hub.

In a multi-cloud enabled Qlik Sense deployment, your Qlik Sense administrator creates tags in the cloud hub. The Qlik Sense administrator then creates streams for your apps. When you publish or move an app with a tag selected in the app properties to a stream with a distribution policy, Qlik Sense copies the app to the cloud hub.

Tags

Tags are a way to group apps in the cloud hub.

App developers with the appropriate privileges can publish apps with tags. The tags can be in multiple cloud hubs, depending on your deployment. Tagged apps are automatically updated whenever the app in the stream is updated.

Consumers with the appropriate access rights can view apps by tags in the cloud hub. App consumers can interact with the apps. For example, they can make selections in the data. However, they cannot update or develop the apps further. For example, they cannot create sheets, charts, and stories. App consumers can share links to charts in apps with the selections they have made.

App consumers can additionally create private collections to organize apps. A private collection created by the app consumer can only be viewed by them.



Your Qlik Sense administrator may set up additional app properties required for distributing from streams to collections.

Streams and tags

The Qlik Sense administrator can have a distribution policy that distributes published apps with added app properties with one or more tags to a cloud hub.

When an app is published to a stream in Qlik Sense Enterprise, distribution policies determine the target cloud hubs that will receive the app with the tags. You can set app properties that control the destination cloud hub and tags when publishing in the Qlik Sense Enterprise hub. Qlik Sense Enterprise copies the app from the stream to the cloud hub with the tags whenever you publish or change app properties. The destination for each distribution is controlled by distribution policies managed by your Qlik Sense administrator.

Apps can be published to only one stream, but they can be published with multiple tags to multiple cloud hubs.



Your administrator can see the time of the last sync in the stream properties.

Depending on your organization you may prefer to move apps to an archive stream with no distribution policy instead of just removing the app.

Tagged apps in a collection can be modified in Qlik Sense Enterprise hub, like an app in any other Qlik Sense Enterprise stream. In Qlik Sense Enterprise hub. You can:

- Duplicate apps in the stream.
- Republish the app in the stream.
- Manage app custom properties
- Edit or open the app in **Published**.

In an open app in Qlik Sense Enterprise, you can:

- Publish and unpublish personal sheets and stories.
- Add base sheets and stories to the app or remove them from the app.

Best practices and limitations for publishing apps with tags to the cloud hub

Apps published with tags have the following best practices and limitations:

- Apps published with tags are read-only. Collection users cannot make any changes to the app, such as creating private or community sheets or stories in the app. If you want to work on the app directly in the cloud hub, export the app and then import it into the cloud hub
- On-Demand apps are not supported for collections.
- Extensions are not supported for apps published to Qlik Cloud Services. Visualizations using extensions cannot be opened in Qlik Cloud Services. The app consumer will receive a message indicating that the visualization was not found.

Publishing apps to cloud hubs with tags

You can publish apps to cloud hubs with tags to which you have write access. You do this at the same time as publishing to a stream. Apps that are already in a stream can also be published to cloud hubs with tags .

When an app is published to a stream in Qlik Sense Enterprise, distribution policies created by your Qlik Sense administrator determine the target cloud hubs that will receive the app with tags using custom app properties. When publishing an app to a stream, you can set app properties that control the destination cloud hub and tags as well as control access to the app. You can also apply the app properties to a published app already in a stream. When you set these properties, Qlik Sense copies the app in stream to the selected cloud hubs with the selected tags.

If your deployment has multiple cloud hubs, you will need to choose one.



To avoid exposing restricted data, remove all attached files with section access settings before publishing the app.

Attached files are included when the app is published. If the published app is copied, the attached files are included in the copy. However, if section access restrictions have been applied to the attached data files, the section access settings are not retained when the files are copied, so users of the copied app will be able to see all the data in the attached files.

You can remove a published app from a cloud hub by removing the app properties applied to it. Deleting the app also removes it from the cloud hub.

Publishing an app to cloud hubs with tags



The tags, destination cloud hub, and user group access custom properties are determined by your Qlik Sense administrator. The names may vary from the names used in this procedure.

Do the following:

1. In **Work** in the Qlik Sense Enterprise hub, right-click the app and then select **Publish**.
2. In the **Stream name** drop-down list, select a stream.



There is no drop-down list if you only have access to one stream.



It is possible to publish many apps with identical names to a stream. Qlik Sense will indicate when there are published apps with the same name in a stream.

4. Optionally, you can rename the app in the **App name** field. This field displays the name of the app that you selected from the hub.
5. Click **Manage**.
6. From app properties, select *collections* and then select the tags.
7. If your deployment has multiple cloud hubs, select *distribution* and then select the cloud hubs.
8. If your deployment uses access control, select *groupswithaccess* and then select the user groups.
9. Click **Apply**.
10. Click **Publish**.

The published app is now in the selected stream as well as the cloud hubs with the tags selected in the **Manage properties** dialog. Under **Published**, you will see an entry for the published app that links to the published app in its stream.

If the distribution policies that were set up by your Qlik Sense administrator determine that distribution is necessary, the app will be distributed to the cloud hub. The app will be available with the tags that are specified by the *collections* app custom property.



Depending on the size of your app, it may take a few minutes for your app to appear in the cloud hub.

Publishing a published app in a stream to a collection



The tags, destination cloud hub, and user group access custom properties are determined by your Qlik Sense administrator. The names may vary from the names used in this procedure.

Do the following:

1. In a stream, right-click the app and select **Manage properties**
2. From app properties, select *collections* from the list of properties, and select the tags.
3. If your deployment has multiple cloud hubs, select *distribution* from the list of properties, and then select the cloud hubs.
4. If your deployment uses access control, select *groupswithaccess* from the list of properties and select the user groups.
5. Click **Apply**.

The published app is now in the selected stream as well as the cloud hubs with the tags selected in the **Manage properties** dialog.


If the distribution policies that were set up by your Qlik Sense administrator determine that distribution is necessary, the app will be distributed to the cloud hub. The app will be available with the tags that are specified by the *collections* app custom property.



Depending on the size of your app, it may take a few minutes for your app to appear in the cloud hub.

Changing the tags, cloud hubs, or user access settings of a published app

Do the following:

1. In the stream, right-click the app and select **Manage properties**.
2. To add the app to new tags or cloud hubs, or add user group access, select the app property, and then select the new values.
3. To remove the app from a tag or cloud hub, or to remove group access, click  on the property name.
4. Click **Apply**.

The published app is now in the selected cloud hubs with the selected tags.


If the distribution policies that were set up by your Qlik Sense administrator determine that distribution is necessary, the app will be distributed to the cloud hub. The app will be available with the tags that are specified by the *collections* app custom property.



Depending on the size of your app, it may take a few minutes for your app to appear in the cloud hub.

Removing a tag from an app

Do the following:

- In the Qlik Sense Enterprise hub, right-click the app and then select **Manage properties..** Click  on the tags, and then click **Apply**.

The app is removed from the selected tags.

Step-by-step - Publishing an app to a collection

This example takes you through publishing an app to a collection and viewing it in the cloud hub with tags. In this example, your organization uses both Qlik Cloud Services and Qlik Sense Enterprise on Kubernetes and has multiple cloud hubs. Your administrator has set up properties for both the tags as well as the cloud hubs. You need to publish your app with two tags on the Qlik Cloud Services cloud hub named *cloud services* for your organization's sales team.

Prerequisites

- Your administrator has set up the distribution policies contained in [Distribution policies - example](#).
- You have an app to publish. This example will use the app *Beginner's tutorial*, available from [Beginning with the basics](#).
- You have access to the cloud hub to verify your app is published with the selected tags.

Tasks

- Publish *Beginner's tutorial* with the *US* and *Sweden* tags on the Qlik Cloud Services cloud hub.

Publishing *Beginner's tutorial* with the *US* and *Sweden* tags

Do the following:

1. In your hub, right-click *Beginner's tutorial* and select **Publish**.
2. Select a stream from the **Stream name** drop-down list.
3. Click **Manage**.
4. To select the Qlik Sense Enterprise cloud hub, select *distribution* from the drop-down list and select the value *cloud services*.
5. To set the tags, select *collections* from the drop-down list and the values *US* and *Sweden*.
6. To set the groups with access, select *groupswithaccess* from the drop-down list and select *Sales*.

7. Click **Apply**.
8. Click **Publish**.

The app is published to the stream. Qlik Sense will then publish it with the *cloud service* cloud hub in the tags *US* and *Sweden*. Log into the cloud hub to verify that the app is available with the tags.

Step-by-step - Removing an app from a cloud hub

This example takes you through removing an app from a cloud hub. In this example, the app you published with the tags *US* and *Sweden* on the *cloud service* cloud hub is no longer needed and needs to be removed from the cloud hub. You need to remove your app from the cloud hub by removing the tag and cloud hub properties on the app.

Prerequisites


- Your administrator must have set up the distribution policies in [Distribution policies - example](#).
- You must have published an app to a cloud hub using the following example *Step-by-step - Publishing an app to a collection* (page 51).
This example uses the app *Beginner's tutorial*, available from [Beginning with the basics](#).
- You must have access to the cloud hub to verify your app has been removed from the cloud hub.

Tasks

- Move *Beginner's tutorial* to another stream.

Moving *Beginner's tutorial* to another stream

Do the following:

1. Right-click *Beginner's tutorial* and select **Manage properties**.
2. Remove the properties *US*, *Sweden*, *collections*, and *Sales* by clicking  on each value.
3. Click **Apply**.

The app is removed from the cloud hub. You can republish to the cloud hub by adding custom properties to the app again.

3.5 Publishing between Qlik Sense platforms

You cannot publish directly between the following Qlik Sense platforms.

- Qlik Sense Enterprise
- Qlik Sense Cloud Business
- Qlik Sense Cloud Basic
- Qlik Sense Desktop

Instead, you have to download a copy of the app from one platform, and then upload the copy to the other platform. You can then publish the app in the platform to which it is copied.



This functionality is not available in Kubernetes.



To find out how data is shared between Qlik platforms, visit our [General Data Protection Regulation](#) (GDPR) compliance.

When copying an app to another platform, consider the following:

- You will have to recreate data connections on the destination platform.
- Some functionality may not be supported on the destination platform. For example, extensions in Qlik Sense Enterprise are not downloaded with the app, and cannot be recreated in Qlik Sense Cloud.
- You need the appropriate privileges to perform certain actions. For example, only the Qlik Sense Enterprise administrator can import or export apps from the Qlik Management Console.



You cannot publish apps in Qlik Sense Desktop.

Source platform	To download
Qlik Sense Enterprise	Export the app to your computer using the QMC.
Qlik Sense Cloud Business	Right-click the app in your group workspace to download it to your computer.
Qlik Sense Cloud Basic	Right-click the app in your personal workspace to download it to your computer.
Qlik Sense Desktop	Copy the app to your computer from C:\Users\username\Documents\Qlik\Sense\Apps

Destination platform	To upload
Qlik Sense Enterprise	Import the app from your computer using the QMC.
Qlik Sense Cloud Business	Click New app in your group workspace to upload the app.
Qlik Sense Cloud Basic	Click New app in your personal workspace to upload the app.
Qlik Sense Desktop	Move the app from your computer to C:\Users\username\Documents\Qlik\Sense\Apps

3.6 Qlik NPrinting reports in Qlik Sense

Reports can be distributed from Qlik NPrinting to the Qlik Sense hub.

Recipients must be named users who are part of the Active Directory user group in both Qlik Sense and Qlik NPrinting. The reports are private and can only be viewed by the user to whom they are distributed.

Reports can be viewed from the hub by clicking **Reports**. Report formats include PDF, Excel, Word, PowerPoint, PixelPerfect, and HTML.



You cannot currently delete Qlik NPrinting reports from the Qlik Sense hub.



Reports cannot be found with Qlik Sense search.



This functionality is not available in Kubernetes.

Distributing Qlik NPrinting reports to Qlik Sense

You can schedule the distribution of Qlik NPrinting reports to Qlik Sense.

Requirements

To enable and configure the distribution of Qlik NPrinting reports to Qlik Sense, the following is required:

- Your Qlik NPrinting version is 17.1 or newer.
- Certificates (client.pfx, server.pfx, and root.cer) have been exported, by your Qlik Sense system administrator, from the Qlik Sense QMC. You have to include a secret key when exporting the certificates.
- The certificates have been installed, by the Qlik NPrinting administrator, on all computers where the Qlik NPrinting scheduler service is running.
- A firewall rule has been created allowing inbound connections on port 4243 of the Qlik Sense QRS.
- To configure report distribution in Qlik NPrinting, you need to be a Qlik NPrinting scheduler service user with **Publish** tasks authorization. The following information is also required:
 - the central node address for the Qlik Sense server. This is available from the Qlik Sense QMC under **Nodes**.



See the Qlik NPrinting help for more detailed procedures about installing certificates, and configuring report distribution from Qlik NPrinting to Qlik Sense.

Do the following:

1. Log into Qlik NPrinting as a user with **Publish** tasks authorization.
2. Select **Destinations** and then select **Hub**. Add the Qlik Sense hub as destination. You need the central node address for the Qlik Sense server.
3. Create a **Publish** task and then specify a Qlik NPrinting app, reports, users, schedule, and the hub as a destination.

Connecting to Qlik Sense apps in Qlik NPrinting

You can create connections from Qlik NPrinting to Qlik Sense apps. You can then use the data to create and design reports in Qlik NPrinting.

Requirements

To enable and create connections from Qlik NPrinting to Qlik Sense apps the following is required:

- The same certificate requirements apply as those for distributing reports to from Qlik NPrinting to Qlik Sense. However, the certificates have to be installed on all Qlik NPrinting Engine computers.
- A firewall rule has been created allowing inbound connections on port 4243 of the Qlik Sense QRS.
- To create a connection to a Qlik Sense app in Qlik NPrinting, you need to be an Qlik NPrinting user with **Connections** tasks authorization. The following information is also required:
 - the proxy address (full computer name) for the Qlik Sense server.
 - the Qlik Sense app id. This is available from the Qlik Sense QMC under **Apps**.
 - the Windows domain and user name of the Qlik Sense administrator. This is available from the Qlik Sense QMC under **Users**.



See the Qlik NPrinting help for more detailed procedures about installing certificates, and configuring connections from Qlik NPrinting to Qlik Sense apps.

Do the following tasks in Qlik NPrinting to create a connection to a Qlik Sense report:

1. Log into Qlik NPrinting as a user with **Connections** tasks authorization.
2. Select the **Apps** drop-down list, and then select **Apps** from the list. Click **Create App** to create a new Qlik NPrinting app.
3. Select **Apps** and then select **Connections**. Click **Create Connection**, select the app that you just created, and then click Qlik Sense as your **Source**. You will require the following information to finish creating the connection:
 - the proxy address (full computer name) for the Qlik Sense server.
 - the Qlik Sense app id.
 - the Windows domain and user name of the Qlik Sense administrator.

3.7 QlikView documents in Qlik Sense

You can publish a link to a QlikView document in the Qlik Sense hub instead of distributing files by email or to a specific folder location.

You can use this method when you want to share a QlikView document with a named user that is part of the **Active Directory** user group in both QlikView and Qlik Sense. In QlikView, the administrator must set up distribution to Qlik Sense.

Requirements

QlikView and Qlik Sense requirements

To enable the publishing of QlikView documents links, the following is required:

- Your QlikView version is 12.00 SR3 or newer.
- Your QlikView installation has a Publisher license.
- A different set of certificates (*client.pfx*, *server.pfx*, and *root.cer*) has been exported, by your system administrator, from the Qlik Sense Management Console to each of the QlikView Distribution Service (QDS) machines.
- Qlik Sense has been configured to allow shared content.
- The server connection to the QlikView AccessPoint has been configured to use the machine name.

QlikView certificate requirements

When creating a set of certificate for QlikView, the following is required:

- The certificates must be created using the full name, including the domain of the QDS machine.
- The certificates must be password protected.
- A secret key pair must be created.

Configuration requirements

The following topics provide details about the configurations needed when publishing QlikView document links in the Qlik Sense hub:

- [Configuring Qlik Sense to allow users to publish a link to shared content](#)
- [Configuring the QlikView Distribution Service with the Qlik Sense certificates](#)
- [Creating a task to publish a link to a QlikView document in the Qlik Sense hub](#)

Publishing links to QlikView documents in the Qlik Sense hub


You share links to QlikView documents in the Qlik Sense hub by using the QlikViewManagement Console. To view QlikView documents, log in to the Qlik Sense hub using the same credentials as a the named user that has access to the document was shared with. Select a link to a document in **QlikView documents** to open the QlikViewAccessPoint in a new window. When viewing QlikView documents in Qlik Sense, no changes can be saved.






QlikView documents cannot be displayed using the mobile view for small devices.


Do the following:


1. Click the **Documents** tab.
The **Source Document** page opens.

 *Only source documents can be published.*

2. Expand a QDS machine instance and locate the document you want to share.
3. Click  to create a new task.
4. On the **Distribute** tab, click  to add a recipient.
5. Select the **Named User** user type.
6. Click  to add a user.

 *The named user must be part of the **Active Directory** user group in both QlikView and Qlik Sense.*

7. On the **Document Information** tab click  to add an attribute.
8. Type `ShowInSenseHub` in the **Name** field and `true` in the **Value** field.
9. Click **Apply**.
The task may be run and will now add a link to the QlikView document in the Qlik Sense hub.

 *Links to QlikView documents cannot be deleted from the Qlik Sense hub.*

3 Working with others in the cloud hub

The cloud hub is a collaborative environment for both developing and sharing content with others.

You can use shared spaces to develop and share content with other members of your cloud hub. You can also share your personal apps with other cloud hub members.

3.8 Granting access to sheets, bookmarks, and stories

You can make your sheets, bookmarks, and stories public so users with access to your app can view them.

Granting access to sheets, bookmarks, and stories (page 58)

3.9 Collaborating in shared spaces

A shared space is a user-created section in the cloud hub that enables the sharing of apps for collaborative development and to control viewer access.

Working in shared spaces (page 59)

3.10 Sharing personal apps

You can share your personal apps for viewing with other members of your cloud hub.

Sharing apps in the cloud hub (page 66)

3.11 Granting access to sheets, bookmarks, and stories

In the app overview, you can make sheets, bookmarks, and stories public or private. You can also re-order sheets and stories.

New items added to the app overview are always private. Private items are only visible to you. Public sheets, bookmarks, and stories can be seen by anyone. If you make an item public, you are no longer the owner. If you make an item private, you become the owner.

You can reorder sheets and stories by dragging them.



*If you cannot drag sheets to re-order them, disable **Touch screen mode** in the global menu.*

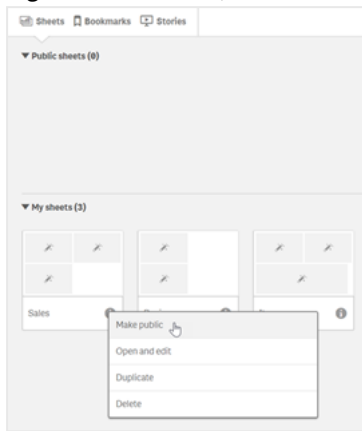
Making a sheet public

This applies to sheets, bookmarks, and stories.

Do the following:

3 Working with others in the cloud hub

1. Open the app in app overview.
2. Under **My sheets**, find the sheet you want to make public.
3. Right-click the sheet, and choose **Make public** in the drop-down.



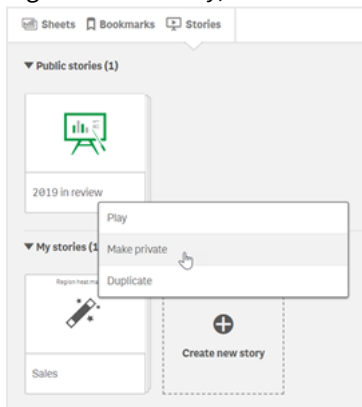
Your sheet is now public. You are no longer the owner.

Making a story private

This applies to sheets, bookmarks, and stories.

Do the following:

1. Open the app in app overview.
2. Under **Public stories**, find the story you want to make private.
3. Right-click the story, and choose **Make private** in the drop-down.



You are now the story owner.

3.12 Working in shared spaces

A shared space is a section of the cloud hub used to collaboratively develop apps and control access to apps. You can find your shared spaces using the spaces drop-down in **Explore**.

3 Working with others in the cloud hub

Any user with a professional license can create a space. Apps within a space can have sheets, stories, and bookmarks added to them by multiple users. Shared spaces are restricted to the members. Apps in the space can only be viewed by space members.

Permissions are assigned to members when they are added to a shared space. Permissions define what members can do in the shared space. There are four permissions in shared spaces:

- **Owner:** You are the first administrator that can manage the space and its members as well as create content in the space.
- **Is admin:** You can manage the space and its members as well as create content in the space.
- **Can edit:** You can add and edit content in apps. You cannot manage the space and its membership.
- **Can view:** You can view apps in the space, but cannot create content or manage the space.

Member permissions can be changed, giving them a different role in the space or removing them from the space.

You can create new apps directly in a shared space. You can also move apps from your personal space to your shared space so other members can work on them.

Creating shared spaces

Whoever creates a space is the space's owner. The owner of a space cannot be changed in the cloud hub. Space owners can be changed in the Management Console.



Space names must be unique within a cloud hub.

Do the following:

1. Click the spaces drop-down and select **Add a space**.
2. Enter a name for the space and a description for the space.
3. Click **Create**.

Adding members to shared spaces

Members can be added to the space by the owner or members with **Is admin** permission.

Do the following:

1. In the space, click **Manage members**.
2. Search for members by name and select the members you want to add to the space.
3. Select a permission for the members and click **Add**.
4. Click **Done**.

Editing the names and descriptions of shared spaces

You can change the name and description of the space.

Do the following:

1. In the space, click the **Edit spaces** icon.
2. Change the name and description and click **Save**.

Deleting shared spaces

You can delete a space. Deleting a space will also delete all apps in the space. Only the owner or a user with **Is admin** permission can delete a space.

1. In the space, click the **Edit spaces** icon.
2. Click **Delete**.
3. Click **Delete**.

Developing and sharing apps with shared spaces

There are different ways of developing apps collaboratively and sharing them with other members of your cloud hub. Here is a sample workflow for using shared spaces:

Create an app

Create an app in your personal space. Add data sources, create a data model, and create scheduled reloads for the app.

The creator of an app is the only user who can manage the data in an app, so the data model must be complete before the app can be collaboratively developed with other users.

Create a shared space

Add a shared space to your cloud hub for collaborative development of your app.

Move your app to the space

Once the app is ready for collaboration, move your app to your shared space.

Moving apps between spaces (page 63)

Add users to the space

Add collaborators to your space and assign them **Can edit** permission. Collaborators must have a professional license.

Develop apps in the space collaboratively

All **Can edit** users can add sheets, stories, and bookmarks to the app. Their content is private until they chose to make it public in the app.

Granting access to sheets, bookmarks, and stories (page 58)

Update your app

You may receive feedback from your app audience. An app in a space can be updated at any time with changes to the data model or content in the app.

Retire an app from the shared space

When the app is no longer required, you can delete it from the cloud hub.

Retire the space

When the space is no longer required, you can delete it from the cloud hub.

Using apps in shared spaces

Apps can be created, developed, and shared with other members of the cloud hub in a shared space.

Apps can be created and developed in a similar way to how apps are created and shared in a personal space. Depending on your space permissions and your license, you can create and develop apps in the space. If you have **Can view** permission, you can only view the apps in the space.

For a detailed view of what you can do with apps based on your permission and license, see *Managing permissions in shared spaces* (page 64).

Creating apps in a shared space

Users can create or upload apps in a shared space by clicking **Create** and selecting **Create app** or **Upload app**. You cannot duplicate apps to a space, but you can move apps to a space.

Tags you add to the app are shared with other members of the cloud hub, but only if they have access to your app.

The app owner is responsible for adding data to the app. Only the app owner can create and modify the data connections and load script in **Data manager** or **Data load editor**. Data connections are owned by the user who created the connection. Only connection owners can edit their connections.

Adding content to apps in shared spaces

Users with **Can edit** or **Is admin** permissions can add sheets, stories, and bookmarks to apps in the shared space. Sheets, stories, and bookmarks added to the app are private. Only the creator of the private content can see it in the app. When they are ready to be shared, the creator makes them public.

Only the app owner can edit data in the app, but other shared space members can create, edit, and delete:

- Master items
- Variables
- Media library content



Snapshots taken for stories are not shared with other users.

Shared space members with **Owner**, **Can edit**, or **Is admin** permissions can modify the following app properties:

- Selected theme
- Enable right-to-left reading order
- Setting a bookmark as app default
- Sheet title styling

Reloading apps in a shared space

Only the app owner can manually reload apps and create scheduled reloads for apps in the space.

Moving apps between spaces

You can move apps between shared spaces as well as between a shared space and a personal space.

When you move an app to a personal space, it moves to the personal space of the app owner.



The app owner should be a member of any space to which you move an app.

Do the following:

1. Click **•••** on the app and select **Edit**.
2. Select the new space from **Space**.
3. Click **Save**.

Duplicating apps in a shared space

You can duplicate apps in a shared space.



If an app uses section access for data, you cannot duplicate the app.

Do the following:

- Click **•••** on the app and select **Duplicate**.

Exporting apps from spaces

You can export an app from a space as a .qvf file. Exported apps do not include any private sheets in the app.



If an app uses section access for data, you cannot export the app.

Do the following:

- Click **•••** on the app and select **Export with data** or **Export without data**.

Sharing apps from shared spaces

You can add members to a space and give them **Can view** permission so they can view the apps in a space. You cannot share individual apps from a space. If you do not want to share a space with viewers, you can move the app to a space you have created for app viewers. You can also move the app to your personal space and share it with specific cloud hub members.

Managing permissions in shared spaces

Shared space permissions control access to apps in the space. They define a member's role in the shared space. Permissions are assigned to members when they are added to a space.

Any cloud hub member with a professional license can create a space. When you create a space, you are assigned the **Owner** permission. Owners can then add new members to the space and assign them permissions. Space permissions are managed in **Manage members**. In **Manage members**, you can search for cloud hub members, assign them permissions, and add them to your shared space.

Member permissions can be changed to give them a new role in a space. A user with **Can view** permission might be changed to an app developer by changing their permission to **Can edit**. Member permissions can be changed by space owners and members with **Is admin** permissions.

Members can be removed from a space in **Manage members** by clicking the delete icon beside the member.



*You can check your permissions in a shared space by clicking **Manage members**. If you do not see **Manage members**, you have **Can view** or **Can edit** permission for the space.*

Space permissions and app ownership

If you create an app, you are the owner of the app. The app owner is the only user who can add data to an app. They are also the only user who can manually reload an app or create a schedule of reloads for the app.

Space permissions override app ownership. If an app is moved to a space that the app owner does not have permission to access, then the app owner cannot access their app. If the app owner's permission in a space is changed to **Can view**, they will lose the ability to add data to the app and reload the app. When moving an app between spaces, ensure the app owner has **Can edit**, **Is admin**, or **Owner** permissions in the destination space if you want the app owner to still manage reloading the app and the data model.

Permissions in a shared space

Permissions can be assigned by **Owner** and **Is admin** users. What shared space permissions enable you to do depends on if you have a professional or an analyzer license assigned to you by your tenant administrator.

Permissions for members with professional licenses

The following tables outline what members with the professional license can do in a space:

Space actions by permission in a shared space

Action	Owner	Is admin	Can edit	Can view
Rename the space	Yes	Yes		
Create new apps in the space	Yes	Yes	Yes	
Move apps to another space	Yes	Yes	Yes	

3 Working with others in the cloud hub

Action	Owner	Is admin	Can edit	Can view
Move apps to the space	Yes	Yes	Yes	
Duplicate apps in the space	Yes	Yes	Yes	
Export apps in the space	Yes	Yes	Yes	
Add members to the space	Yes	Yes		
Change member permissions for the space (Is admin, Can edit, Can view)	Yes	Yes		
Remove members from the space	Yes	Yes		
Delete the space	Yes	Yes		



Owner, Is admin, and Can edit permissions allow users to reload apps, but the user must be the app owner.

App actions by permission in a shared space

Action	Owner	Is admin	Can edit	Can view
Open an app	Yes	Yes	Yes	Yes
Delete an app	Yes	Yes	Yes	
Open Data load editor, Data manager, or Data model viewer	Yes	Yes	Yes	
Edit app attributes (change name, description, and tags)	Yes	Yes	Yes	
Edit app properties (select theme, enable right-to-left reading order, set a bookmark as app default, and sheet title styling)	Yes	Yes	Yes	
Create, edit, and delete master items and variables	Yes	Yes	Yes	
Create, edit, and delete media library content	Yes	Yes	Yes	
Add private sheets to the app	Yes	Yes	Yes	
Add private bookmarks and stories to the app	Yes	Yes	Yes	Yes
Make private sheets, bookmarks, and stories public in the app	Yes	Yes	Yes	
Make public sheets, bookmarks, and stories private in the app	Yes	Yes	Yes	
Take snapshots in the app	Yes	Yes	Yes	Yes



Owner, Is admin, and Can edit permissions allow users to open **Data load editor, Data manager, or Data model viewer**, but the user must be the app owner.

Permissions for members with analyzer licenses

Members with the analyzer license cannot create or own a space. The following tables outline what members with an analyzer license can do in a space:

Space actions by permission in a shared space

Action	Is admin	Can edit	Can view
Export apps in the space	Yes	Yes	

App actions by permission in a shared space

Action	Is admin	Can edit	Can view
Open an app	Yes	Yes	Yes
Delete an app	Yes	Yes	
Edit app attributes (change name, description, and tags)	Yes	Yes	
Edit app properties (select theme, enable right-to-left reading order, set a bookmark as app default, and sheet title styling)	Yes	Yes	
Add private bookmarks and stories to the app	Yes	Yes	Yes
Take snapshots in the app	Yes	Yes	Yes

3.13 Sharing apps in the cloud hub

Sharing apps lets other cloud hub users access your insights.

To share an app, click **⋮**, select **Share**. You can share your app with individual members of your cloud hub or you can share with everyone in your cloud hub. You can see who your app is shared with in **Details**.

Cloud hub members can interact with your shared app, but they cannot create community content such as sheets, charts, and stories. Members can share links to charts in apps with the selections they have made. If you want other cloud hub members to be able to edit your app, move the app to a shared space and can give cloud hub members edit access in the space.

If you are using Qlik Sense Enterprise with cloud hub, sharing apps is similar to publishing an app to a collection. Apps published to a collection can be distributed to specific users. Apps shared in the cloud hub are shared with all users who have access to the cloud hub. If you have Qlik Sense Enterprise and want to share an app with specific users, you should publish the app to your collections instead of sharing that app.

4 Exporting and printing

You can share insights with people outside the boundaries of a Qlik Sense system by exporting and printing sheets and visualizations. For example, you can coordinate with suppliers, making shipping decisions based on your data.

You can export sheets and visualizations as PDFs and images.

4.1 Exporting data from a visualization


You can export data from a visualization and save it as an .xlsx file.



This functionality is not available in Kubernetes.

For the number of row, column, and cell limitations of an Excel export file, see [ExportData method](#).

Do the following:

1. Right-click the visualization that you want to export data from.
2. Select  **Export data**.
3. In the **Export complete** dialog, click the link to download the data file.
4. Open or save the file.

The data has been exported to an .xlsx file.



In filter panes with more than one dimension, you can either select all dimensions or a single dimension.

4.2 Exporting a sheet

In Qlik Sense you can export an entire sheet as a PDF file.




This functionality is not available in Kubernetes.



You cannot export a sheet to a PDF file from a published app in your personal cloud (Qlik Sense Cloud Basic). Unpublish the app to export.

Exporting sheets on desktop devices


Do the following:

1. Open the sheet you want to export.
2. Click  and select **Export sheet to PDF**.
The **PDF settings** dialog appears.
3. Select the **Paper size** by scrolling the related drop down menu and clicking on the selected one.
4. Click **+** or **-** on sides of **Resolution (dots per inch)** to increase or decrease the resolution accordingly.
You can also type an exact value. The minimum value is 72 dpi, the maximum is 300 dpi.
5. Choose the **Orientation** by selecting **Portrait** or **Landscape**.
6. In the **Aspect ratio options** you can select:
 - **Keep current size** to insert the visualization into the PDF without changing its size. If the resulting PDF is smaller than the visualization it will be cropped.
 - **Fit to page, without keeping aspect ratio** will change height and width of the visualization to fill the entire page. Aspect ratio will change accordingly.
7. Click **Export** to start the creation of the image.

Exporting sheets on touch devices

You can also export an entire sheet as a PDF file from your mobile device.

Do the following:

1. Open the sheet you want to export.
2. Click  and select **Export sheet to PDF**.
The **PDF setting** dialog appears.
3. Select the **Paper size** by scrolling the related drop down menu and clicking on the selected one.
4. Choose the **Orientation** by selecting **Portrait** or **Landscape**.
5. Click **Export** to start the creation of the PDF.
6. To download the PDF, click on **Click here to download your PDF file**.

4.3 Exporting a visualization

You can export visualizations as images or PDF files.



This functionality is not available in Kubernetes.

Exporting visualizations from desktop devices

Export as an image

Do the following:

1. Right-click the visualization you want to export.
2. In the shortcut menu select **Export as an image**.

The dialog **Image settings** appears.

3. Select to keep **Current** options or to change them by using **Custom** options.
 - Selecting **Current** shows the width and height of the original chart and the screen resolution in dpi. You can select the output format between .png and .jpeg by using the **Type of file** drop-down menu.
 - You can customize the dimensions and the resolution of the exported image by clicking **Custom**:
To set a new image width or height, click **+** or **-** to increase or decrease the width or height accordingly. You can also type an exact value. The minimum value is 8 pixels, the maximum is 2,000 pixels.
To set a new image resolution, click **+** or **-** on the sides of **Resolution (dots per inch)** to increase or decrease the resolution accordingly. You can also type an exact value. The minimum value is 72 dpi, the maximum is 300 dpi.
4. Click **Export** to start the creation of the image.

Best practice

Here are a few tips to help you export a visualization to an image.

- The maximum size of an image that can be exported is 2,000 by 2,000 pixels. If the export would result in a larger image, you must reduce its size under **Custom**.
- If you want to keep the aspect ratio you have to change **Width (pixels)** and **Height (pixels)** accordingly.
- If you increase the resolution of the image, you need to increase the width and height by the same scale to maintain the size of the image.

Export to PDF

Do the following:

1. In the shortcut menu select **Export to PDF**.
The dialog **PDF settings** appears.
2. Select the **Paper size** by scrolling the related drop down menu and clicking on the selected one.
3. You can increase or decrease the **Resolution (dots per inch)** by clicking on **+** or **-**. You can also type an exact value. The minimum value is 72 dpi, the maximum is 300 dpi.
4. Choose the **Orientation** by selecting the button **Portrait** or **Landscape**.
5. In the **Aspect ratio options** you can select:
 - **Keep current size** to insert the visualization into the PDF without changing its size. If the resulting PDF is smaller than the visualization it will be cropped.
 - **Fit to page, without keeping aspect ratio** will change height and width of the visualization to fill the entire page. Aspect ratio will change accordingly.
6. Click **Export** to start the creation of the image.



To create a paper copy of the visualization you can print the PDF file.

Exporting visualizations from mobile devices

You can also export visualizations from your mobile device.




On Android devices, the download of an exported visualization is started in a new tab. If the server does not have a trusted certificate, you will see a security warning instead of a download prompt.

Export to PDF


When exporting from mobile devices, exporting to PDF is the default option.

Do the following:

1. Tap on the visualization you want to export to zoom it.
2. Click  and select **Export**.
Keep the default option **PDF** on the **Select type of file** drop-down menu.
3. Select the **Paper size** by scrolling the related drop down menu and clicking on the selected type.
4. Choose the **Orientation** by selecting **Portrait** or **Landscape**.
5. Click **Export** to start the creation of the PDF.
6. To download the PDF, click on the link **Click here to download your PDF file**.

Export as an image

Do the following:

1. Tap on the visualization you want to export to zoom it.
2. Click  and select **Export**.
3. Open the drop-down **Select type of file** and click **PNG** or **JPEG** to select the image format you want.
4. Click **Export** to start the creation of the image.
5. To download the image, click on the link **Click here to download your image file**.

Limitations

- Only the visible part of the visualization will be exported. For example, if you export a table that has scroll bars, you will not get the entire table. You will get an image that shows the scroll bars and the window area that they specify.
- The following type of objects cannot be exported:
 - Filter panels
 - Sheet titles
 - Widgets
- You can export a visualization extension (custom object), if the visualization extension and the security rules for your installation are set up to allow it.

4.4 Exporting a story

You can export a story as a PowerPoint presentation or a PDF file. The story will be exported with the selection states used to create the story. Any selections applied while playing the story are ignored.



This functionality is not available in Kubernetes.




This feature is not available on mobile devices.

Exporting as a PowerPoint presentation

You can create a PowerPoint presentation from a story, using the data storytelling feature.

Do the following:

1. Open the story that you want to export.
2. Click , and then select **Export story to PowerPoint**.
The **PowerPoint settings** dialog appears.
3. If you want to change the default **Slide size** and **Resolution (dots per inch)**, make selections from the two drop-down lists.
4. The bottom line of the dialog shows the result of your settings.
5. Click **Export**.
When the PowerPoint presentation is ready, a link will appear in the dialog.
6. Click the link.
The presentation will be downloaded to the default download location for your browser.
7. Click **Cancel** to close the dialog.

Pre-configured PowerPoint slide sizes

By default, the exported presentation will have a slide size of 960 by 540 pixels with a widescreen aspect ratio of 16:9, and a resolution of 220 dpi (dots per inch).

You can choose from three pre-configured slide sizes and aspect ratios for your PowerPoint slides. A custom option is also available. These are the pre-configured slide sizes:

Pre-configured PowerPoint slide sizes

Pre-configured slide sizes	Aspect ratio	Width (pixels)	Height (pixels)
Standard (4:3)	4:3	960	720
Widescreen (16:9) (default)	16:9	960	540
Widescreen (16:10)	16:10	960	600

Three resolutions are available: 220, 150, and 96 dpi.

Setting custom slide height and width

You can set the dimensions of the exported slides to values other than the pre-configured values by selecting **Custom** from the **Slide size** drop-down list in the **PowerPoint settings** dialog. If you do this, the dialog changes to allow you to set slide width and height in pixels.

Do the following:

- Click **+** or **-** to increase or decrease the slide height or width. You can also type an exact value directly into the field.




*To preserve the aspect ratio, make sure you adjust **Width (pixels)** and **Height (pixels)** accordingly.*

Exporting as a PDF

You can export a story as a PDF, using the data storytelling feature.

Do the following:

1. Open the story that you want to export.
2. Click , and then select **Export story to PDF**.
The **PDF settings** dialog appears.
3. If you want to change the default **Paper size**, select it from the two drop-down lists.
4. To set a new image resolution, click **+** or **-** for **Resolution (dots per inch)** to increase or decrease the resolution accordingly. You can also type an exact value. The minimum value is 72 dpi, the maximum is 300 dpi.
5. Choose the **Orientation** by clicking **Portrait** or **Landscape**.
6. In the **Aspect ratio options**, you can select:
 - **Keep current size** to insert the visualization into the PDF without changing its size. If the resulting PDF is smaller than the visualization, it will be cropped.
 - **Fit to page** to change the height and width of the visualization to fill the entire page. Aspect ratio will change accordingly.
7. The bottom line of the dialog shows the result of your settings.
8. Click **Export**.
When the PDF presentation is ready, a link will appear in the dialog.
9. To download the PDF, click **Click here to download your PDF file**.
The presentation will be downloaded to the default download location for your browser.
10. Click **Cancel** to close the dialog.

4.5 Troubleshooting - Exporting

This section describes the problems that can occur when exporting data or stories in Qlik Sense.



This functionality is not available in Kubernetes.

Anonymous users cannot export app data

I want to let anonymous users export data, for example, export as image/pdf/data for visualizations.

Possible cause

There is no security rule granting anonymous users the right to export data.

Proposed action

You can enable export of data for anonymous users by creating a copy of the security rule ExportAppData and modifying the copy to only have resource.HasPrivilege("read") in **Conditions**. For more information, see [Security rules installed in Qlik Sense](#).

I cannot export a visualization as an image

I tried to export a visualization as an image, but the export failed.

Possible cause

The visualization you want to export is too large. The maximum size an exported image can be is 2,000 by 2,000 pixels.

Proposed action

In the **Image settings** dialog, as you export, choose the **Custom** button and set the image size to 2,000 by 2,000 pixels.

I have blank characters in PDF files

I have blank characters in PDF files that were created when exporting stories with labels in Japanese, Korean, Simplified Chinese, or Traditional Chinese.

Possible cause

Exporting a story with these languages requires the appropriate font, or else the default Times New Roman font will be used. Times New Roman does not support Japanese, Korean, Simplified Chinese, or Traditional Chinese.

This only applies to text in title or paragraph objects in the story. It does not apply to embedded visualizations.

If ja, ja-JP, ko, ko-KR, zh-CN, zh-TW is declared in the CollationLocale setting for the application in the Data Load Editor, the exporting feature will use the first available font from the following ordered lists to generate the PDF:

Available fonts

CollationLocale language	Font stack
Chinese Simplified	SimSun, SimHei, FangSong

CollationLocale language	Font stack
Chinese Traditional	PMingLiU, MingLiU, Microsoft JhengHei, Microsoft JhengHei UI
Japanese	Meiryo, Meiryo UI, Yu Gothic, Yu Gothic UI, MS UI Gothic
Korean	Malgun Gothic, BatangChe

If a font from the above list is not found, characters in your story requiring a Chinese, Korean or Japanese font will not be printed. There will just be a blank space.

Proposed action

Install one of the fonts used to export PDF for the language that you are using. You cannot choose the font because the system will only use those in the table in the specified order.

Make sure that you use labels that are the same language that you set in the CollationLocale. If they differ, only common characters will be correctly rendered in the created report.

Right to left languages, like Arabic or Hebrew, are not currently supported on labels.

I exported my table but the totals row is missing

I exported a table from my visualization but the row with the calculation of totals is missing from the exported file.

Possible cause

Only the actual data contained in the table are being exported.

Proposed action

Recreate the calculation of totals in the exported file.

I exported a sheet but the data view tables changed back to visualizations

I exported an entire sheet, but all the visualizations I had changed to tables of data have changed back to the original visualizations.

Possible cause

The data view of a visualization cannot be exported.

Proposed action

Export the data for each visualization using the **Export data** option.