Minitab Connect®

Getting Started with Minitab Connect®

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1. Overview

The *Getting Started with Minitab Connect®* guide introduces you to some of the most common features and tasks in Minitab Connect. Use this guide to learn how to complete the following tasks:

- Create a custom view of your data
- Create and send an export of your data
- Add a new table
- Add a new form
- Connect with an external data source
- Schedule data imports
- Modify a data flow
- Export data to other applications
- Visualize data
- Create a dashboard to share your analyses

Minitab Connect Tools

Minitab Connect is a powerful collection of tools that lets you import data into its platform, clean the data, and prepare the data for analysis. Also, you can create visualizations of the data and easily share files with other applications. Each tool in Minitab Connect performs a specific job, but all the tools seamlessly work together to allow for quick and flexible access to your data and analyses.

Minitab Connect includes three core tools to manage, store, and clean your data.

Base tool

The **Base** tool stores the data that flows in and out of the platform into a centralized data warehouse. Use the **Base** tool for immediate access to all your integrated data resources and manage your data resources without risking data quality, integrity, or security.

Flow tool

Use the **Flow** tool to flow your data through the platform. Data flow in and out automatically or manually through the connections that you set up. With the **Flow** tool you can eliminate manual data clean-up tasks and automate the movement of data between different sources and platforms. Minitab Connect includes hundreds of pre-built connectors and integrations, or you can create your own.

Prep tool

Use the **Prep** to easily view and query your data. Also, use the **Prep** for data cleanup and data aggregations based on the processes that you specify. You can set up the prepping routine once, and all your data are processed accordingly.

Minitab Connect also includes tools for visualizing and summarizing your data:

Visualize tool

Use the **Visualize** tool to chart your data and share dashboards with colleagues across your organization.

Audit tool

The **Audit** tool displays a summary of your table. Use the **Audit** tool to easily see the size, fields, flows, views, and processes as well as general information about your data table.

The story

A company that sells online book downloads collects a large amount of data to understand the target audience and to increase online book sales.

Throughout the *Getting Started with Minitab Connect®* guide, you analyze data from this fictitious company as you learn to use Minitab Connect. While Minitab Connect is a powerful platform that can handle large and complicated datasets, our examples are generally simple to illustrate the features available in the platform.

Note: The primary dataset for this example is located in the Minitab Dataset Library. The steps to open this dataset are in the section Import data from an existing data file into a Minitab Connect table on page 5.

You can follow the chapters in sequence, or you can skip to the chapter of interest. Areas of focus include opening datasets, creating new tables and forms, creating connections, visualizing data, and reporting results.

Tip: You might find it helpful to create your own folders when saving the tables and graphs from the examples in this guide. Or, you can use unique names so that the other users on your platform do not overwrite your work.

1. Prepare Your Data for Analysis

Often, the first step in data analysis is to prepare your data. In many cases, you have too much data or incorrectly formatted data. It is important to clean and subset the data to focus on the variables of interest. Use the **Prep** tool to do the following:

- Create a custom data view to easily explore your data
- Design and run a custom data prep
- Export a data report

Create a custom view of your data

You can create a custom view of your data so that you can focus on the fields of interest. Each data table can have multiple views that you can save and name. These views can be used throughout the platform for ease of data reporting and analysis. Views do not change the actual data, but only change the presentation of the data. At any time, you can select **Reset Config** to see all the data in the table.

In this example, the marketing analyst collects daily sales data. To focus on the daily breakdown of downloads by category, the marketing analyst creates a new view of the data that includes only the variables of interest.

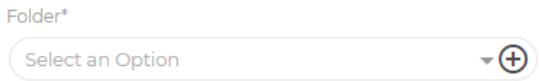
Import data from an existing data file into a Minitab Connect table

First, the marketing analyst imports data from a Microsoft Excel (.xlsx) file into a new Minitab Connect table. After the file is imported, the data in Minitab Connect is independent of the original data file. Therefore, changes made to one source will not affect the other. Follow these instructions to create a standard table from an existing data file.

1. From the **Home** screen, select the **Minitab Connect** button to open the **Navigation** pane. Under **Tables**, select **Add New Table**.

   Or, from the **Home** screen, select the **Add** button under **Tables**.

2. On the **Dataset** tab, enter the following:
   a. Under **Name**, enter *Online Downloads* to identify the new table.
   b. Under **Folder**, select the plus button to create a new folder.

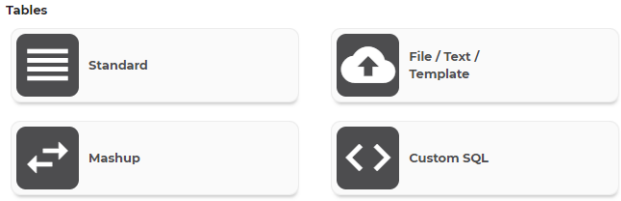
   Tip: You might find it helpful to create your own folders when saving the tables and graphs from the examples in this guide. Or you can use unique names so that the other users on your platform do not overwrite your work.

   c. Under **Name**, enter *Download Data* to name the folder that stores the new table.
   d. Under **Parent**, keep */(root)* to create the new folder at the root level of Minitab Connect.

      Alternatively, you can browse to another location to create the new folder.
   e. Select **Create**.
   f. Under **Status**, select **Development**.

   You can also enter optional fields, which are helpful to describe your dataset.

3. From the **Tables** gallery, select **File / Text / Template**.

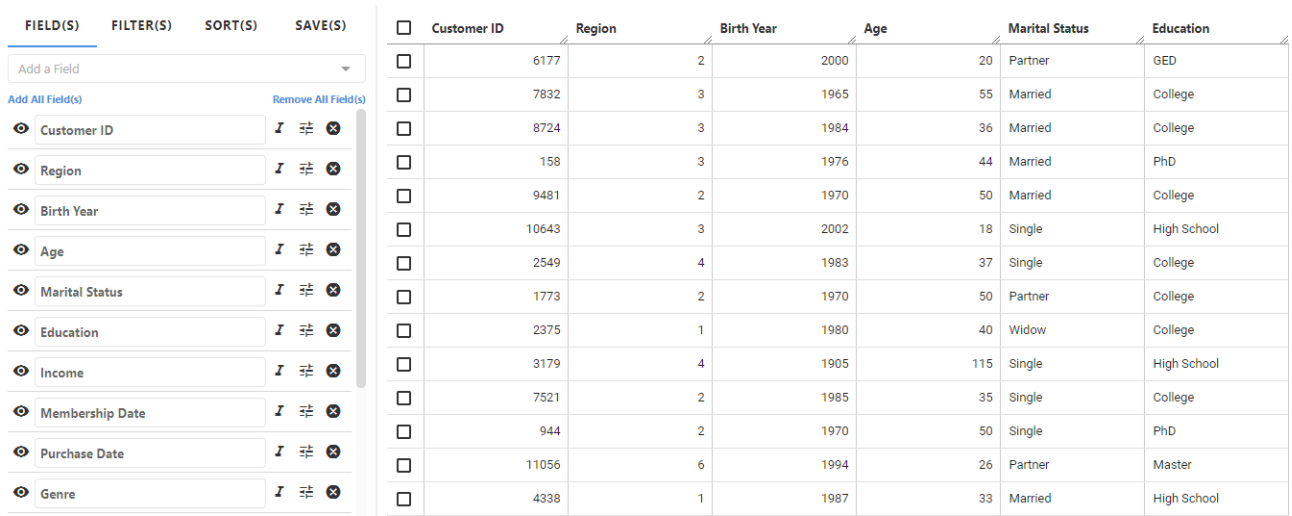


4. Under **Import Type**, select the **File** icon and browse to your file.
   For this example, use the dataset in the Minitab Dataset Library, Online Downloads Data.

5. Select **Save**.

When you save the table, the **Prep** tool opens. Select **Reset Config** to view the data.

Note: Select the **Notifications** and **Issues** button to display problems with your data. For instance, you can see whether the data have imported properly.



Customer ID	Region	Birth Year	Age	Marital Status	Education
6177	2	2000	20	Partner	GED
7832	3	1965	55	Married	College
8724	3	1984	36	Married	College
158	3	1976	44	Married	PhD
9481	2	1970	50	Married	College
10643	3	2002	18	Single	High School
2549	4	1983	37	Single	College
1773	2	1970	50	Partner	College
2375	1	1980	40	Widow	College
3179	4	1905	115	Single	High School
7521	2	1985	35	Single	College
944	2	1970	50	Single	PhD
11056	6	1994	26	Partner	Master
4338	1	1987	33	Married	High School

Create a saved view of your data

Follow these instructions to create a saved view of the entire dataset.

1. Open the **Prep** tool.

2. Select **Save**.

3. Under **View**, select **New View**. Under **Name**, enter *Online Downloads* to identify the new view.

4. Select **Save**.

You now have a saved view called *Online Downloads* that includes the entire dataset. You can create additional views at any time. Next, you'll create a view that includes only specific fields of interest.

Create a summary view of your data

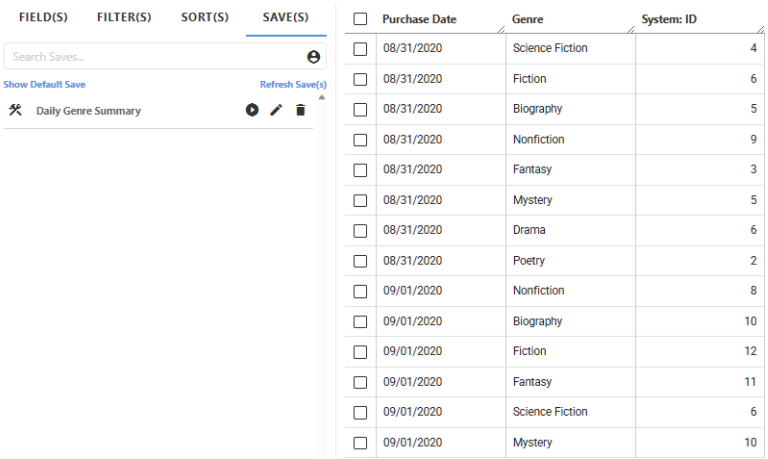
The analyst specifies the fields of interest. Because the analyst wants a summary of the total downloads by genre and purchase date, the analyst creates a view with these fields and one of the system fields created by Minitab Connect.

Note: Every data table includes four system fields, which are created by Minitab Connect to help identify the data. You cannot remove system fields but they do not display unless you add them to a view.

Follow these instructions to create a summary view of the data.

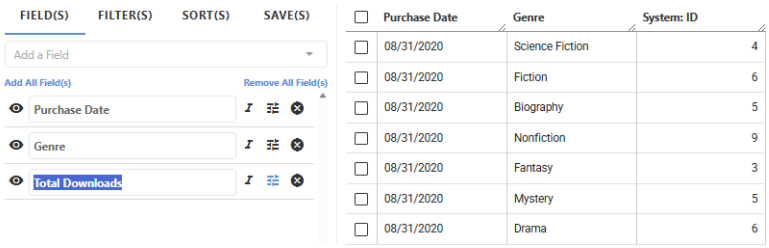
1. On the **Fields** tab, select **Remove All Field(s)** to start with an empty field list.
   Depending on the number of columns, it may be easier to add or remove fields.
2. Select **Add a Field**, then choose the fields to add.
   For this example, add Purchase Date and Genre.
   For this example, we also need to add *System: ID*, which is a unique ID for each record.
3. Under *System: ID*, select the **View** button.
4. The **Add Prep** dropdown should automatically open. Select **Count**.
   For this example, the analyst wants a summary of each genre for each day.
5. Select **Save**.
6. Under **View**, select **New View**. Under **Name**, enter *Daily Genre Summary* to identify the new view.
7. Select **Save**.

You now have a saved view called *Daily Genre Summary* that you can use throughout the Minitab Connect platform to view the summary data.



Connect sorts the results by System ID. When you add aggregate data preparations, such as **Count** or **Sum**, Connect sorts each group by the largest System ID. Use the **Sort(s)** tab to change the sort order.

Tip: You might find it helpful to rename the system field with a more meaningful name. From the **Fields** tab, highlight the name you want to change and enter a new name.



In this example, *Total Downloads* is more descriptive.

You can create other views at any time. Open the **Audit** tool to see a list of all the views for the active table.

Send an export of a view by email

After a view is created, you can export the data from this view to share with others. In this example, a marketing analyst sends an email of the daily summary to the marketing team. Follow these instructions to create an export of the data view.

1. From the **Prep** tool , select the **Export** button .
2. In the **Export Data** dialog box, enter the following:
   a. Under **Export**, select **New Export**.
   b. Under **Name**, enter *Daily Genre Export*.
   c. Under **View**, select *Daily Genre Summary* to select the view to export.
   d. Under **Delivery**, select **Email - Attachment**.
   You can also send an email as an inline attachment.

   Note: When you send information from Connect by email, it is recommended that you select an email encryption option from the **PGP / GPG Encryption** dropdown.

3. On the **Delivery** tab and enter the following:
   a. Under **Email To**, enter the email addresses, separated by commas, to the recipients of the export.
   Select the envelope icon to populate the field with an email address.
   b. Under **Email Subject**, enter the subject header for the email.

   For this example, keep the other default settings. You can also enter optional fields, which are helpful to describe your export.
4. Select **Save**.
5. Select **Run**.

You now have a saved export called *Daily Genre Export* that you can use throughout the Minitab Connect platform to export the summary data. You can create other exports at any time.

Open the **Audit** tool to see the prepped view and export you created in addition to the original data.

Currently, this table has 32 fields, one prepped view, and one export. Expand each section to see more details.

2. Get Your Data Into Minitab Connect

All data used by Minitab Connect are stored within tables. You can add data to a Minitab Connect table several different ways.

- Create a standard table and manually enter your data
- Create a connection to import your data one time only or at a frequency that you specify
- Use custom SQL to pull data from an existing data set
- Import from a file
- Combine two or more existing data sets

Add a new table

In this example, a customer services representative enters customer complaint data into a standard table. The representative either speaks on the phone or chats online with the customer about their concerns.

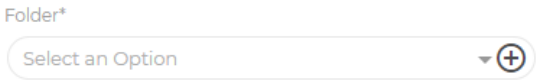
Create a standard table to include specified fields

First, the customer representative creates a standard table with the required fields. For this simple example, the customer representative collects the date, the customer ID, the customer region, and the type of issue. Follow these instructions to create a standard table for manual data entry.

1. From the **Home** screen, select the **Minitab Connect** button to open the **Navigation** pane. Under **Tables**, select **Add New Table**.

   Or, from the **Home** screen, select the **Add** button under **Tables**.

2. On the **Dataset** tab, enter the following:
   a. Under **Name**, enter *Download Issues* to identify the new table.
   b. Under **Folder**, select the plus button to create a new folder.

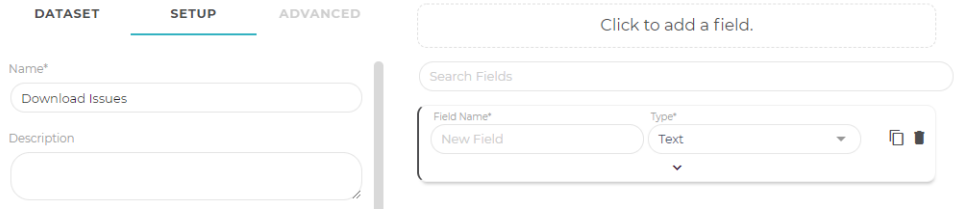
   

   c. Under **Name**, enter *Customer Team* to name the folder that stores the new table.
   d. Under **Parent**, keep */(root)* to create the new folder at the root level.
      Alternatively, you can browse to another location to create the new folder.
   e. Select **Create**.
   f. Under **Status**, select **Development**.

   You can also enter optional fields, which are helpful to describe your dataset.

3. Under **Tables**, select **Standard**.

4. On the **Setup** tab, add a new field for each variable in your table.
   Click to add a field. opens a data entry field.



   a. Under **Field Name**, enter *Date*.

   b. Under **Type**, select **Date**.

   c. Select the down arrow ⌄ at the bottom of the box to expand this field. Under **Format**, select **Date**.

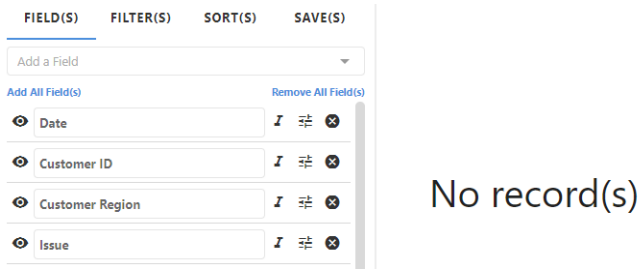
   You can also enter optional fields, which are helpful to describe your dataset.

5. Repeat Step #4 for *Customer ID*, *Customer Region*, and *Issue*.
   The *Customer ID* and *Customer Region* fields are numeric, and the *Issue* field is text.

   Note: For **Text** and **Number** fields, the default length values are usually adequate, but you can increase or decrease as you like.

6. Select **Save** 🖫.

When you save the table, the **Prep** tool 🛠 opens and you can now add data to the table.



This table has the four fields that you added. Select **Add a Field** at the top of this list to add any of the system fields to this view.

Note: Use the **Base** tool to add more data fields to this table.

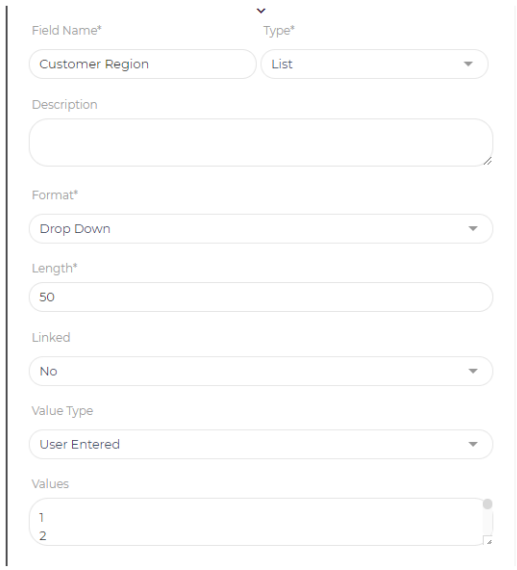
Create a list field for a variable

In the next section, Add a new form on page 13, the customer service team creates a form to collect data. Because the team wants to use standard values for the customer region and the issue type, the analyst specifies a list for these fields to create dropdown lists in the data collection form.

Follow these instructions to create dropdown lists for customer region and issue.

1. Open the **Base** tool.

2. On the **Setup** tab, expand the *Customer Region* field.
   a. Change the **Type** from **Number** to **List**.
   b. Under **Format**, select **Drop Down**.
   c. Under **Value Type**, select **User Entered**.
   d. Under **Values**, enter *1*, *2*, *3*, *4*, *5*, *6*, *7*. Press Enter between entries so each issue is on a separate line.



3. Repeat Step #2 for *Issue*.
   a. Change the **Type** from **Text** to **List**.
   b. Under **Format** select **Drop Down**.
   c. Under **Value Type** select **User Entered**.
   d. Under **Values** enter *Browser*, *Incorrect Billing*, *Incorrect Link*, *Return*, *Other*. Press Enter between entries so each issue is on a separate line.

4. Select **Save**.

Add data into the new table

Next, the analyst enters data into the table.

1. Open the **Prep** tool .
2. Select **Add** and populate the desired fields.
3. Select **Submit** to add the record to the table.
4. If you want to import several records at the same time, use the **Import** button.
   - Under **Type**, select **Text** to copy and paste multiple records at the same time.
   - Under **Type**, select **File** to import a file with all the records.

Add a new form

In the previous section, the customer representative created a standard table with the required fields. However, because the entire customer service team needs to standardize the data collection, the team decides to create a form that all team members can access.

You can use the **Form** tool to design customized forms that have user-specific instructions to minimize data entry errors. The data entries are then stored in the corresponding data table.

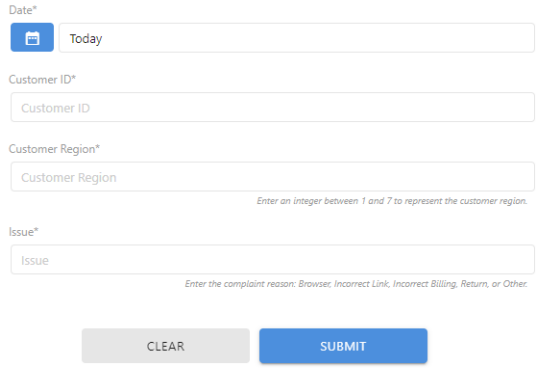
For this example, create a form to collect the date, the customer ID, the customer region, and the type of issue. Follow these instructions to create a new form for manual data entry.

1. Go the **Navigation** pane. Under **Forms**, select **Add New Form**.
2. On the **Info** tab, enter the following:
   a. Under **Name**, enter *Download Issues Form*.
   b. Under **Table**, select *Download Issues*.
      Minitab Connect populates this field when you generate a form from a table.
   c. Under **Type**, select **Single**.
   d. Under **Default Frame Setting**, select **External**.

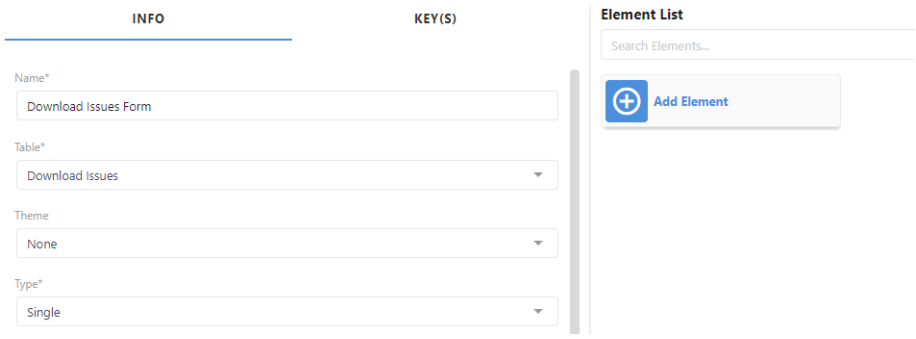
   For this example, keep the other default settings. You can also enter optional fields, which are helpful to describe your form.
3. Select **Add Element**.
   For this example, add elements for date, customer ID, customer region, and the type of issue.
4. Under **Type**, select *Date*. Under **Options**, select **Required**.
5. Select **Add** to save the *Date* element.
6. Select **Add Element**. Under **Type**, select *Customer ID*. Under **Options**, select **Required**.
7. Select **Add** to save the *Customer ID* element.
8. Select **Add Element**. Under **Type**, select *Customer Region* and enter the following:
   a. Under **Help Text**, enter *Enter an integer between 1 and 7 to represent the customer region*.
      This instruction will display on the form.
   b. Under **Options**, select **Required**.
9. Select **Add** to save the *Customer Region* element.
10. Select **Add Element**. Under **Type**, select *Issue* and enter the following:
    a. Under **Help Text**, enter *Enter the complaint reason: Browser, Incorrect Billing, Incorrect Link, Return, or Other*.
       This instruction will display on the form.
    b. Under **Options**, select **Required**.
11. Select **Add** to save the *Issue* element.
12. Select **Save** to save the form.

Tip: Another way to create a new form is from the **Flow** tool . Under the **Input(s)** tab, select the plus button next to **Forms** to add a new form. You can follow the same steps as above.

When you save the form, you can toggle between the **Form** and the **Form (Base)**.



Use the **Form** tool to enter data.



Use the **Form (Base)** update your form.

Create a connection and schedule the data imports

In this example, a marketing analyst creates a connection to a database that contains key data. After this connection is set up, the analyst can use the same connection to pull additional data. Follow these instructions to create a connection for data import.

Create a connection

Minitab Connect offers hundreds of connectors that can bring data into the platform. This example shows how to connect to a database. Your specific steps will depend on the connector that you select. For more information on specific Minitab Connect connectors, go to Connections.

1. From the **Home** screen, select the **Minitab Connect** button to open the **Navigation** pane. Under **Tables**, select **Add New Table**.

   Or, from the **Home** screen, select the **Add** button under **Tables**.

2. On the **Dataset** tab, under **Datasets**, search for *MySQL* or the connection that you want to create.

3. On the **Setup** tab, enter the following:
   a. Under **Name**, enter the name that identifies the table.

   b. Under **Folder**, select the folder that stores the table or create a new folder.

   c. Under **Status**, select whether the table is in development or production.

   You can also enter optional fields, which are helpful to describe your dataset.

4. Under **Connection Setup**, select **New Connection** from **Connection** and enter the **Name** that identifies the connection.
5. Under **Setup**, enter the **Hostname** and **Port**.
6. Select **Next**.
7. Under **Setup**, enter the **Username** and **Password**.
   Contact your IT department if you do not know the database username and password.
8. Select **Next**.
9. Under **Setup**, select your database.
10. Select **Save**.

Now the analyst can pull the data using this connection. From the **Navigation** pane, under **System** > **Connection**, you can see all the data connections that are currently set up.

Schedule data imports

Next, the analyst specifies how often to retrieve the database data. If you import data from a different type of connector, then your steps will be different.

1. Under **Connection**, select where to import the data from.
2. Under **Update Frequency**, select the how often you want to import the data pull.
3. On the **Setup** tab, select **Type of Pull**, then select **Next**.
   - **Single Table** to pull data from one table
   - **Multiple** to pull data from multiple tables
   - **All** to pull data from all data sources

   For this example, the analyst selects **Single Table**. If you select **Multiple** or **All**, you need to specify the other data sources to use.
4. Under **Setup**, you can specify whether you want to use your own SQL. Under **Skip to SQL**, select one of the following:
   - **No** to use the default setup steps. A step-by step process walks you through the options.
   - **Yes** if you are familiar with SQL and want to enter your own code.
5. Under **Table**, select the table that contains the data, then select **Next**.
6. Under **Setup**, select the data fields, then select **Next**.
7. Under **Setup**, add a filter if you like, then select **Next**.
   For example, you can enter a filter for *Date* if you want to specify a date range.
8. Select **Save** to run the data pull.

When you save the table, the **Prep** tool opens. You can display your notifications to see if the data have imported properly. Select **Reset Config** to see the data.

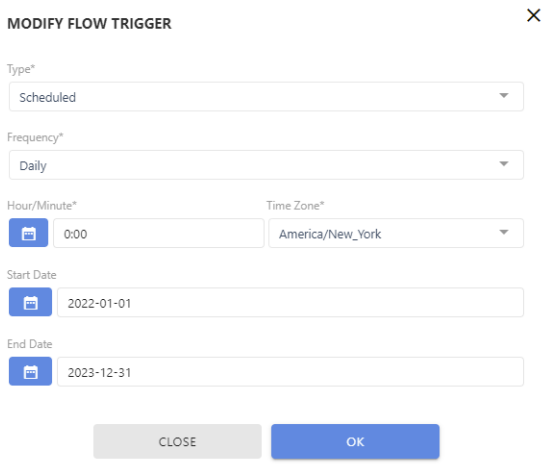
Modify a data flow

In this example, a marketing analyst generates weekly data but wants to reschedule and flow the data daily. Follow these instructions to modify the data flow schedule.

Modify the data schedule

This example shows a scheduled change from weekly to daily data. Your specific steps depend on the type of flow trigger that you select.

1. Open the **Flow** tool .
2. Select the existing scheduled flow to open the **Modify Flow Trigger** dialog box.
3. Under **Type**, select one of the following options:
   - **Manual** runs the process when requested.
   - **Scheduled** runs the process as specified by a schedule.
   - **Data Event** runs the process when new data are inserted or updated, or when old data are deleted.
   - **Form Submission** runs the process when a form is submitted.
   - **Flow Completion** allows you to chain multiple data flows together. For example, you can use **Flow Completion** to run Flow 2 after Flow 1 runs, or you can use flows from different datasets.
4. For this example, the analyst selects **Scheduled**.
5. Under **Frequency**, select **Daily** and specify the time and the start and end dates.
6. Select **Save**.



You can enter the details as needed for your scheduled flow.

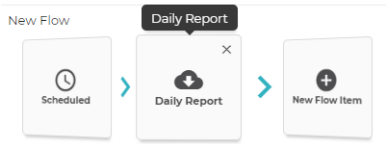
Add a new flow to an existing flow

In addition to the daily data pull, the marketing analyst also wants to add the daily summary export to the flow. Your specific steps depend on the type of flow trigger that you select.

This example shows how to add a new flow item with an existing flow.

1. Open the **Flow** tool .
2. Under the existing scheduled flow, select the **New Flow Item** button.
3. Under **Name**, enter *Daily Report* to name the new flow item.
4. Under **Type**, select **Export**.
5. Under **Export**, select *Daily Genre Export*.
6. Select **OK** to save the new flow item.

When you save the flow, the new flow item is added. You now have a saved flow that pulls data, creates an export, and emails the summary data daily.



3. Push and Pull Your Data to External Applications

With Minitab Connect you can push or pull your prepped data into various applications. You can push data with a simple export. You can pull data by setting up a connection from the external application to import data into Minitab Connect.

Export a Minitab® worksheet

Minitab Connect provides ways for you to export your prepped data to other applications, such as Minitab® Statistical Software.

- To create a Minitab® worksheet (MWX) for in-depth analysis, select the **Export to Minitab** button from the **Prep** tool.
- To export to other formats, select the **Export** button .

FTP and SFTP Connectors

Use a File Transfer Protocol (FTP) or a Secure File Transfer Protocol (SFTP) to communicate and transfer files between a server and Minitab Connect. You need the username and password for the server to access the files and import them into Connect. For a SFTP connector, you can alternatively use a Secure Shell (SSH) key instead of a username and password.

Both SFTP and FTP connectors interact with Connect the same way; however, the SFTP connection provides more security than the FTP connection.

Set up a new connection

Complete the following steps to set up a connection in Minitab Connect.

1. From the **Home** screen, select the **Add** button under **Tables**.
2. Enter a **Name** that identifies the table and select a **Folder** to save the table.
3. In **Datasets**, enter *FTP* or *SFTP* and select the appropriate connector from the results.
4. On the **Setup** tab, enter the following:
   - Under **Beacon**, specify which beacon you want the connection to go through if you have multiple beacons. Usually, the default works best.
   - Under **FTP Host** or **SFTP Host**, enter the host of the server.
   - For a **SFTP Port**, you usually use port 22.
   - If you use a FTP connection, you must enter the **Username** and **Password** for the sever. Contact your IT department if you do not know the database username and password.
5. Select **Next**.
6. For an SFTP connection, use **Authentication Method** to select whether to authenticate the server using a password or an SSH key. If you use an SSH key, Connect creates a unique public key that you must add to the authorized keys on your SFTP server.
7. Under **FTP Path** or **SFTP Path**, enter the path to the connection. The path name must end with a backslash (\). If you want to connect to a subfolder, then enter the path to an existing subfolder. Leave a single backslash to connect to the root folder.

8. Select **Next**. Connect communicates with the server to ensure that the credentials and directories are valid. If the connection is successful, Connect displays a list of files and folders that are found on the server.

9. Select **Save**.

Export a file to a connection

Complete the following steps to export data from a Minitab Connect table.

1. Open the **Outputs** tab of the **Flow** tool.
2. Select the plus sign beside **Export** to add a new export.
3. From **Export**, select **New Export** to set up an export to a server. If you select **One Time Download**, Connect downloads the file to your computer and does not create an export.
4. Enter a **Name** for the export.
5. Under **View**, select a saved view of the table. If you select **None**, Connect exports all the data from the table.
6. Under **Delivery**, select **Connection**.
7. Under **Connection**, select the FTP or SFTP connection that you previously set up.
8. Under **FTP Path** or **SFTP Path** in the **Delivery** column, enter the path to store the file. The path name must end with a backslash (\). If you want to export to a subfolder, then enter the path to an existing subfolder. Leave a single back slash to export to the root folder.

You can specify the file type and file name along with other options. After you save the export, Connect adds it to the list of exports in the **Outputs** tab. Select **Run** to run the export.

Create a connection to Minitab Model Ops

Minitab Model Ops® provides the ability to use a variety of sophisticated models to make predictions. You can set up a connection so that anytime you add records to a table, Connect sends the new data to Minitab Model Ops. Then Minitab Model Ops generates predictions for the new data and sends the predictions back to Connect. Finally, Connect stores the new predictions in the original table. For more information on Minitab Model Ops, go to Minitab Model Ops.

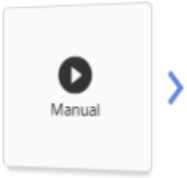
Note: You cannot create a connection using mashup tables, SQL tables, or tables that you prep with an aggregate function.

1. On the **Flow** tool, create a new flow and add a **New Flow Item**.
2. From the **Type** drop down, select **Model Scoring (Minitab Model Ops)**. Select a view from the **View** drop down or select **None**.
3. Under **API Key**, enter the API key for the Minitab Model Ops model. When you create an API key in Minitab Model Ops, there are two available scopes; **Manage Models** and **Score Models**. The key that you enter in Connect must have both scopes.
4. From the **Model** drop down, select the model that you want from Minitab Model Ops.
5. Under **Model Variables** and **Model Responses**, pair the parameters from Minitab Model Ops with fields in Connect. Pair a field for the MTB correlation ID, each predictor, and the predicted response. If you have a categorical response, also pair a field for the predicted probability for each class in the response variable. If you do not pair a parameter with a field, Connect does not store the data for that parameter in the table when you send new data to Minitab Model Ops.

   Note: If you do not have a field for each Minitab Model Ops parameters, you can use the **Base** tool to add new fields to your table.

6. Under **Prediction Timestamp**, pair the timestamp from Minitab Model Ops® to a field in the Connect table.

7. To run the connection each time you enter a new record into the Connect table, select the Manual box. From the **Type** drop down, select **Data Event**. Under **Event Type**, select **On Inserted Record(s)**.



8. Name the flow and save.

When you add a new record to the table, Connect sends the data to Minitab Model Ops. Minitab Model Ops generates predictions and sends them back to Connect. Connect stores the new values in the table.

4. Display Your Data in Custom Graphs

The Minitab Connect **Visualize** tool provides a variety of dynamic chart types, such as line charts, bar charts, word clouds, and many others, so that you can easily explore data and share visualizations securely.

Create a new graph

In this example, the marketing analyst wants to investigate the effectiveness of email and social media campaigns. The team collects data for when a customer accepts an email or social media offer after the first, second, or third offer attempt.

Minitab Connect provides many types of graphs to show relationships between variables. Choose the graph that is best for your situation.

Create a spline chart

For this example, the analyst wants to create a chart of the number of offer acceptances from the first email offer by date. The analyst chooses a spline chart. A spline chart is a type of line chart that draws a curved line between points in a data series. With the spline chart, the analyst can determine patterns in the data.

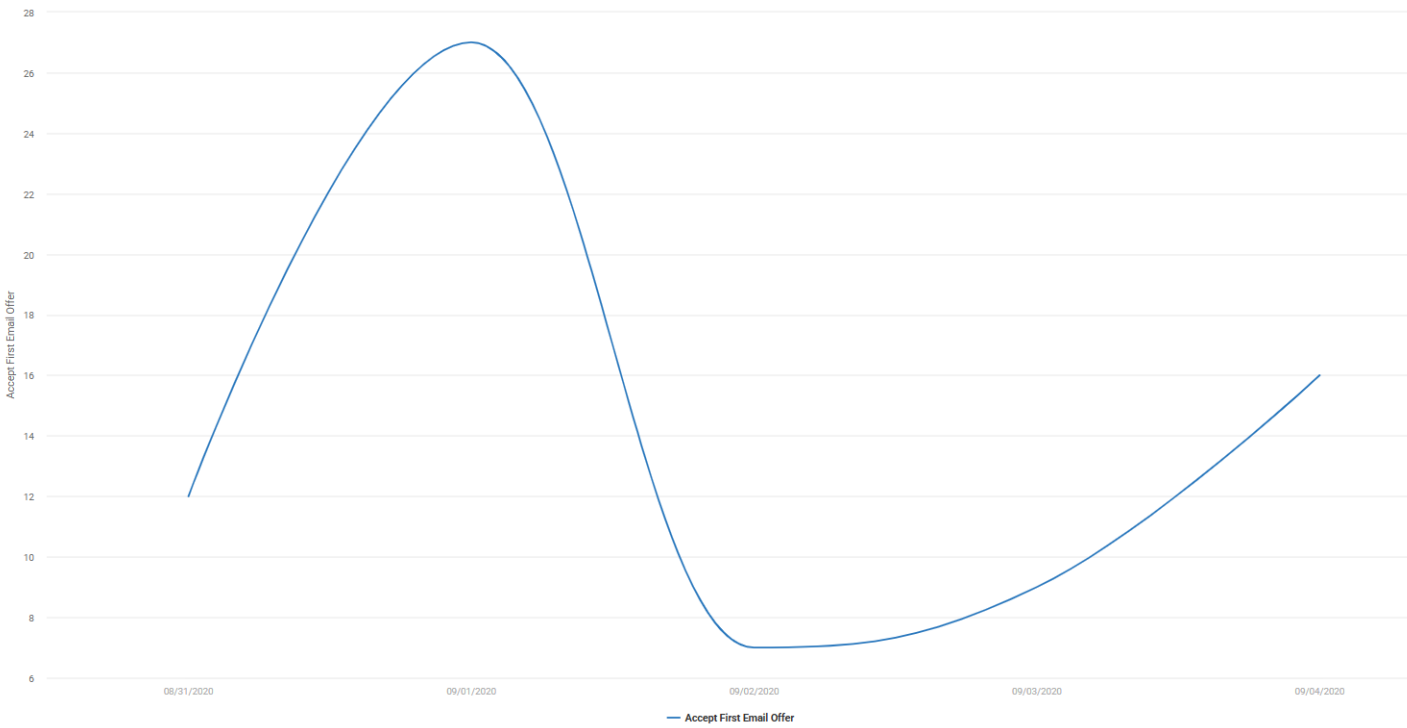
1. Open the *Online Downloads* table that you created previously in Import data from an existing data file into a Minitab Connect table on page 5.
2. Open the **Visualize** tool .
3. In the first dropdown box, select **Current Config**.
   If you want to use a specific view for the data source, choose that view instead.

   Note: The current configuration selection represents the active view of data in the **Prep** tool . Select **Reset Config** in the **Prep** tool to see all the data in the table.

4. Under **Type**, select **Spline**.
5. Under **Metric(s)**, specify the fields to display on the y-axis of the chart.
   For this example, select Accept First Email Offer.
6. Under **Dimension(s)**, specify the fields to display on the x-axis.
   For this example, select Purchase Date.
7. Select **Run** to generate your chart.
8. Select **Save** to save this visual.
9. Under **Visual**, select **New Visual** and enter a **Name**.
   For this example, enter *Email Offer #1 by Date*.
10. Select **Save**.

Example of email offer #1

Here is our first saved visuals with our data table.



This graph shows the number of acceptances of the first email offer, by date.

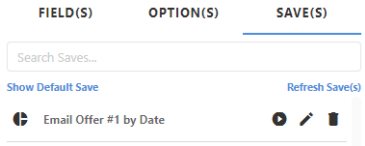
Modify the spline chart

In the previous section, the analyst created a graph that shows the number of acceptances of the first email offer. Minitab Connect has many options to add variables and customize graphs. The analyst decides to add more variables and customize scale options.

Add more variables to your chart

In this example, the analyst wants to add data from the second and third email offers and the social media offers.

1. Open the *Email Offer #1 by Date* graph that you created previously in Create a new graph on page 21.
   a. From the **Visualize** tool , open the **Save(s)** tab.
   b. Click **Run** to open the chart.

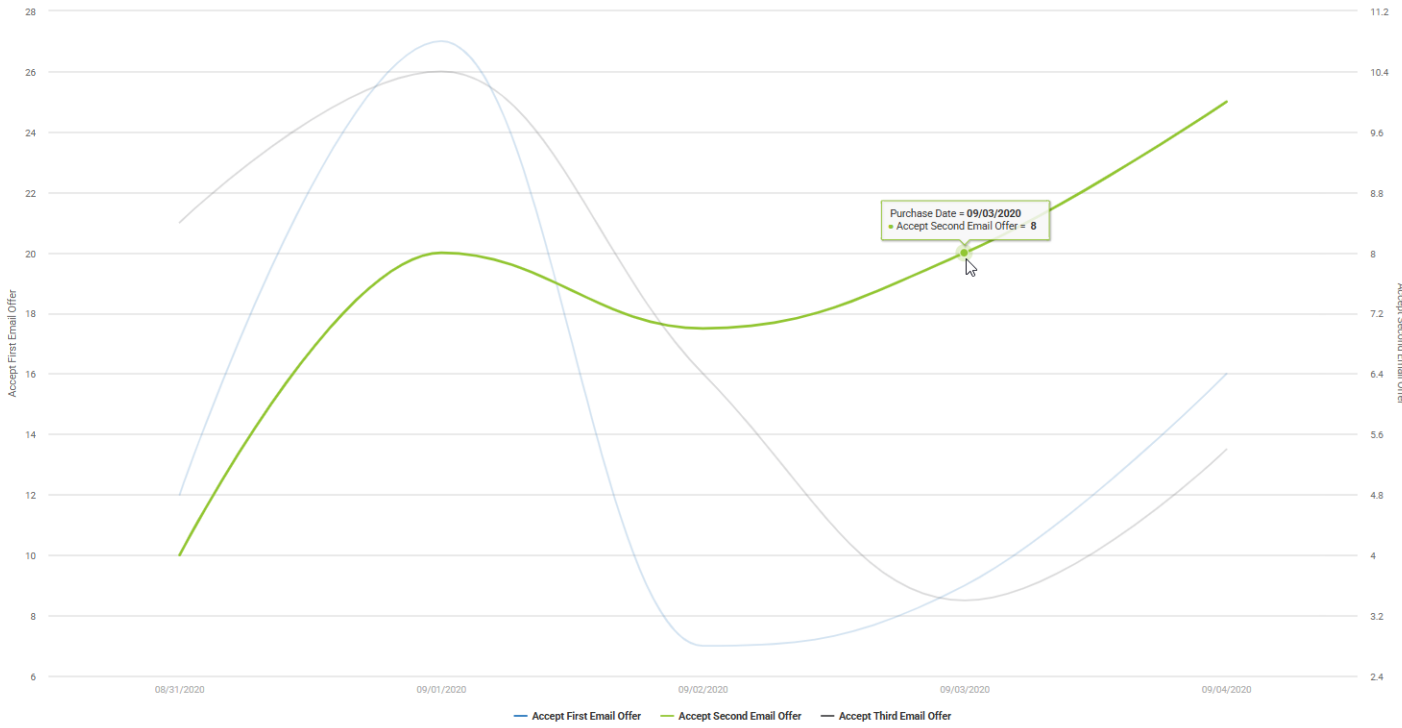


2. On the **Fields** tab, select **Add Metric**.
3. Under **Metric(s)**, select Accept Second Email Offer.
4. Select **Add Metric**.
5. Under **Metric(s)**, select Accept Third Email Offer.
6. Select **Run** to generate your chart.

7. Select **Save** to save this visual.
8. Under **Visual**, select **New Visual** and enter a **Name**.
   For this example, enter *All Email Offers by Date*.
9. Select **Save**.

Example of all email offers

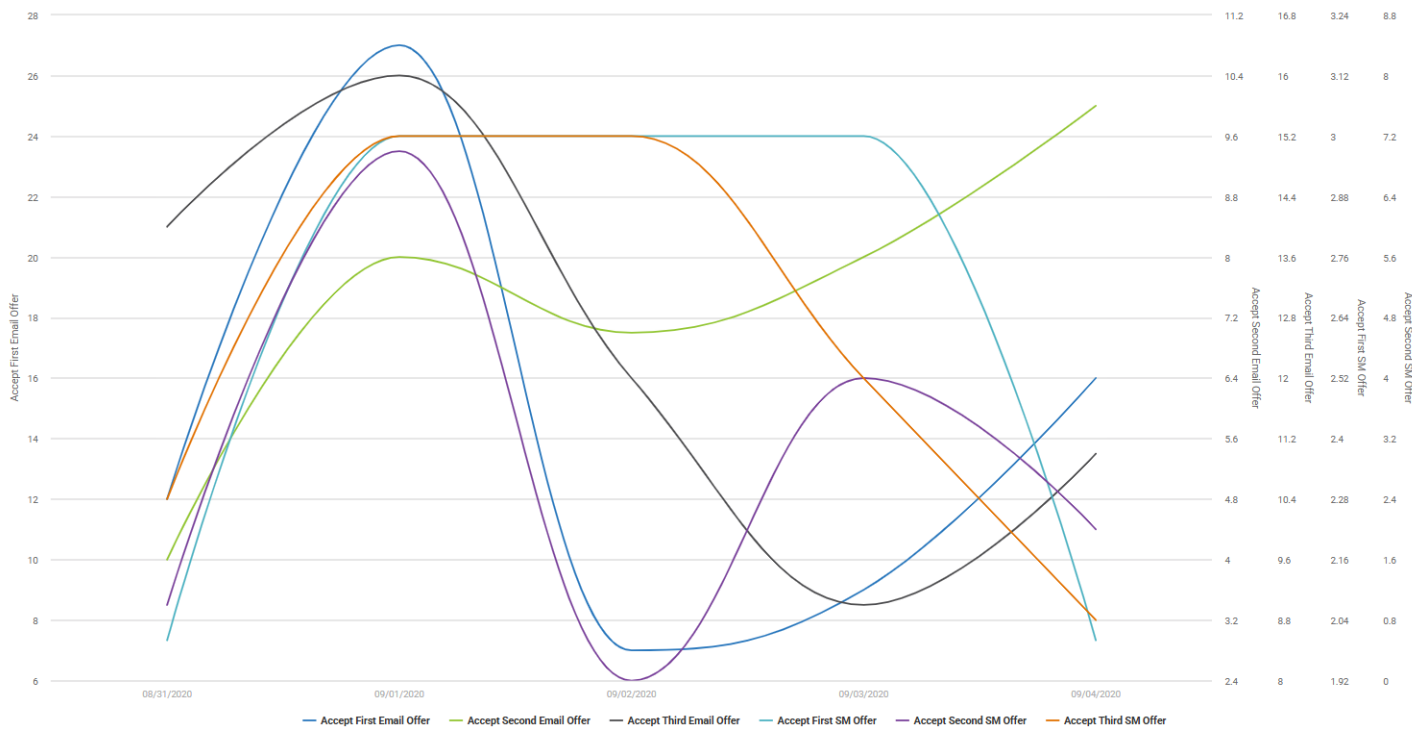
We now have two saved visuals with our data table.



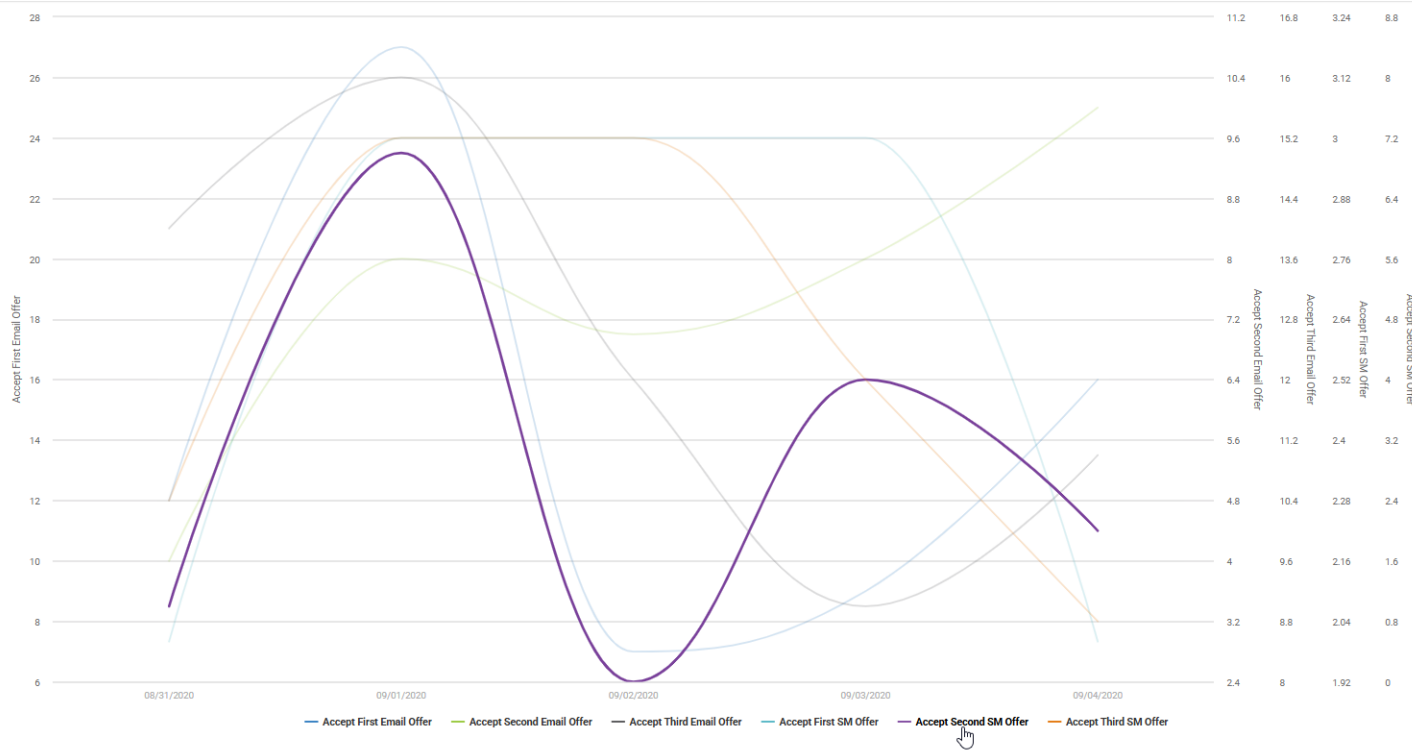
This graph shows the number of acceptances for all email offers, by date. When you hover over the lines, you can see the data labels that identify the individual data points. This data label shows that 8 offers were accepted from the second email attempt on September 3.

Example of all email and social media offers

Repeat the steps from above to add the data from the social media offers. Add Accept First SM Offer, Accept Second SM Offer, and Accept Third SM Offer.



This graph shows the number of acceptances for all email and social media offers, by date.

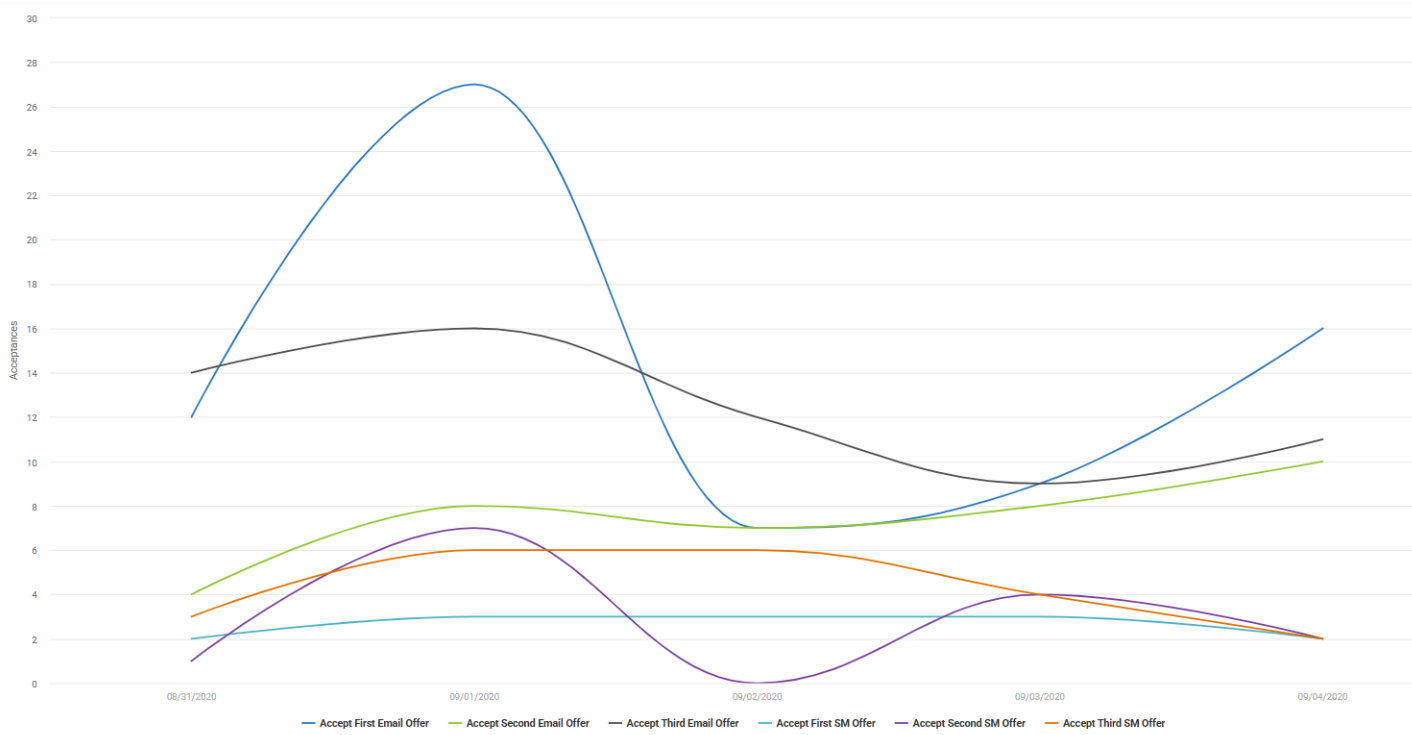


You can add or remove individual variables by selecting the variables in the legend. You can also hover over a particular variable in the legend to bring it into focus.

Use the same scale to compare variables

From the previous section, the analyst created a graph that shows the number of acceptances for all email and social media offers. Notice that each field has a unique scale. However, in most cases, it is easier to compare variables when the scales are the same. Follow these instructions to use the same scale.

1. From the **Visualize** tool , open the **Fields** tab.
2. Select the button next to the Accept First Email Offer field to access more options for this field.
3. Under **Axis Label**, enter *Acceptances*.
4. Select the button again to close the options for this field.
5. Select the button next to the Accept Second Email Offer and under **Axis Label**, enter *Acceptances*.
6. Repeat these steps to update all the axis labels to *Acceptances*.
7. Select **Run** to generate your chart.
8. Select **Save** to save this visual.
9. Under **Visual**, select **New Visual** and enter a **Name**.
   For this example, enter *All Offers on Same Scale*.
10. Select **Save**.

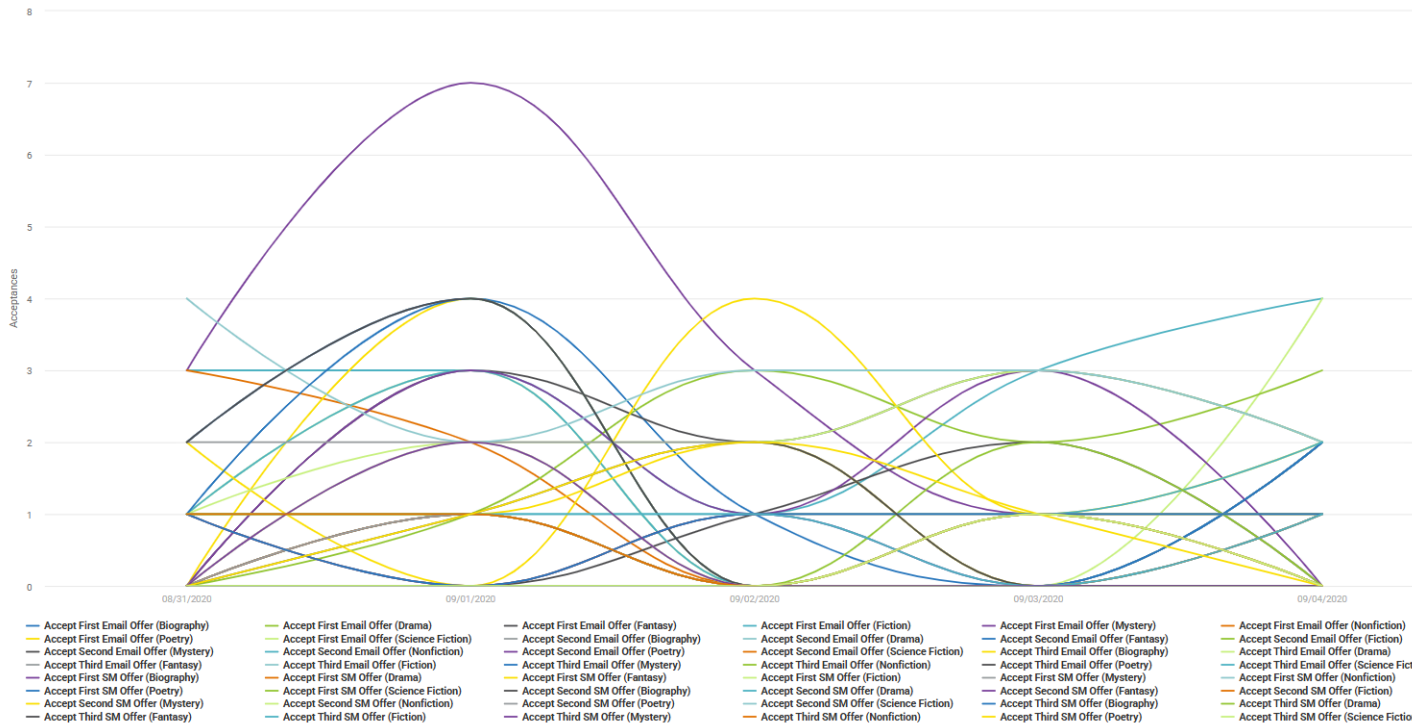


This graph shows the number of acceptances for all email and social media offers, by date, using the same scale for easy comparison.

Add a breakdown to your graph

In the previous section, the analyst created a graph that shows the number of acceptances for all email and social media offers with the same scale. Let's add a breakdown to see this data grouped by genre type.

1. From the **Visualize** tool , open the **Fields** tab.
2. On the **Fields** tab, select **Add Breakdown**.
3. Under **Breakdown(s)**, select Genre.
4. Select **Run** to generate your chart.



This graph shows the number of acceptances for all email and social media offers, by date and by genre, using the same scale for easy comparison.

With Minitab Connect, you can create graphs that contain a great deal of information. Next, we will explore different graph options.

Using graph options

In the previous section, the analyst created various spline charts that show the number of acceptances for all email and social media offers for all genre types. While spline charts are useful, the analyst wants to explore other chart types.

Change the graph type

Follow these instructions to change the chart type to a bar chart.

1. From the **Visualize** tool , open the **Save(s)** tab.
2. Open the *All Offers on Same Scale* graph that you created previously in the section, Use the same scale to compare variables on page 25.
3. Select **Run** to generate the chart.
4. Open the **Fields** tab.

5. Under **Type**, select **Bar** to create a bar chart.
   Investigate other chart types to see which one works best for your application.

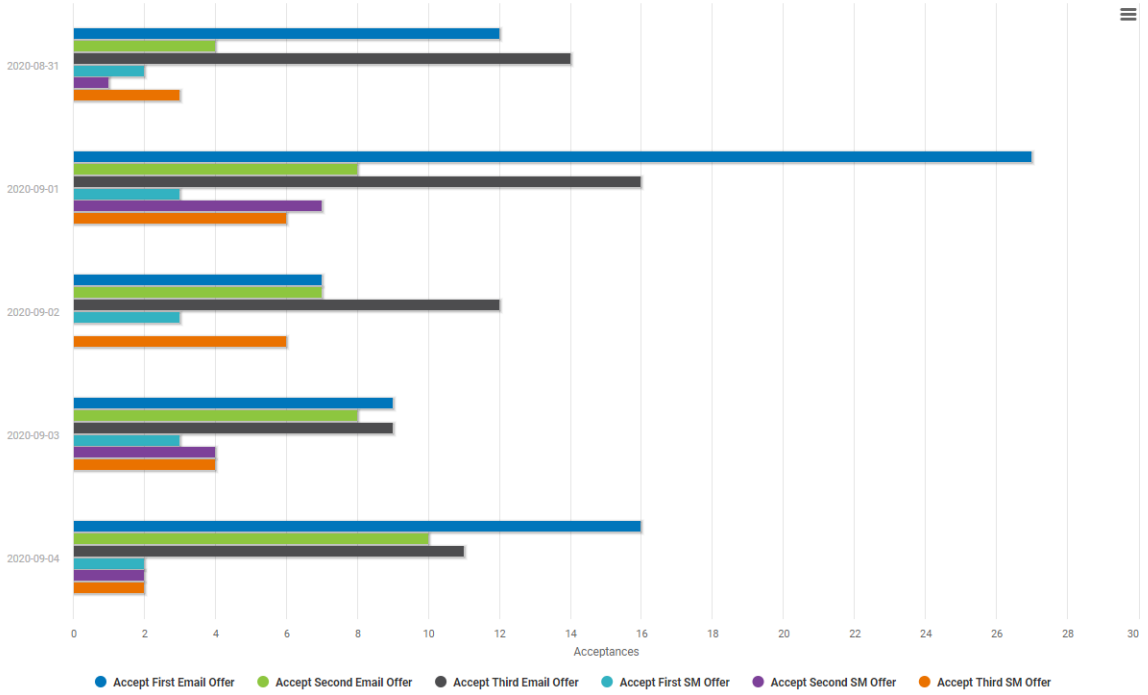
6. Select **Run** to generate your chart.

7. Select **Save** to save this visual.

8. Under **Visual**, select **New Visual** and enter a **Name**.
   For this example, enter *All Offers on Same Scale Bar Chart*.

9. Select **Save**.

Like the spline chart, this bar chart also shows the number of acceptances for all email and social media offers, by date.



The analyst uses this chart to easily compare the number of acceptances between email and social media offers.

Use the advanced options

Feel free to explore the graph options on the **Options** tab. Each graph type has several available options, such as legend placement, display of minimum and maximum scale values, and colors.

Use a view to create a graph with a subset of data

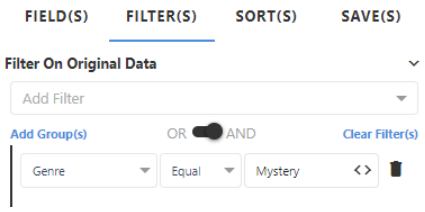
With Minitab Connect you can easily subset your data. The analyst wants to customize options for a subset of data.

Create a data view with a filter on the data

In the previous section, the analyst created a graph that shows the number of acceptances for all email and social media offers for all genre types. The manager of the mystery book division wants a custom graph to study the offer response rates to only the mystery selections. First, create a view using a filter for *Mystery*.

1. From the **Prep** tool , open the **Filter(s)** tab.

2. Select on the **Add Filter** field and select Genre.
   a. In the next expression field, select *Equal*.
   b. In the last field, enter Mystery.

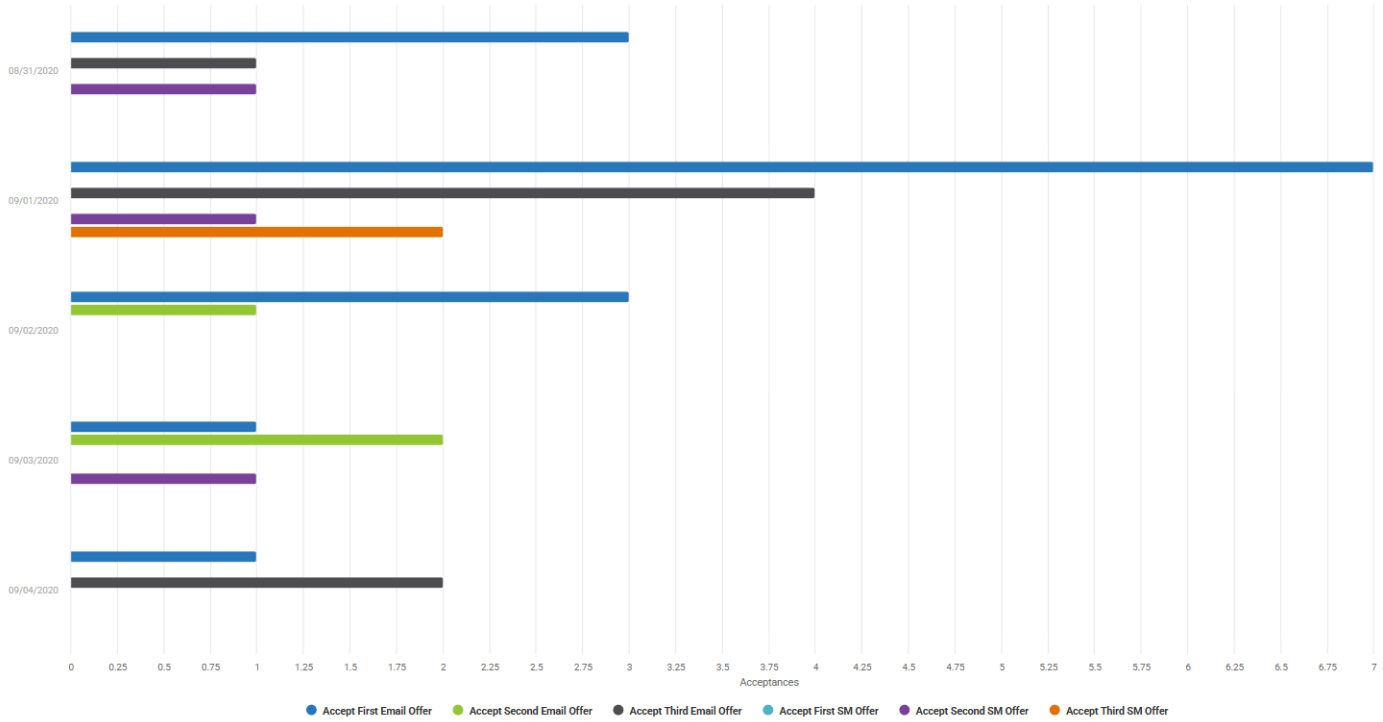


3. Select **Run** to filter the data.
4. Select **Save** to save this view.
5. Under **View**, select **New View** and enter a **Name**.
   For this example, enter *Mystery Offers*.
6. Select **Save**.

Use the saved view to create a chart

From the previous section, Change the graph type on page 26, the analyst has a graph that shows the number of acceptances for all the email offers and all social media offers on the same scale. We can duplicate this graph, but this time, focusing only on the mystery book purchases.

1. Open the **Visualize** tool .
2. On the **Fields** tab, change the first dropdown, from **Current Config** to **Mystery Offers**.
3. Select **Run** to generate your chart.
4. Select **Save** to save this visual.
5. Under **Visual**, select **New Visual** and enter a **Name**.
   For this example, enter *Mystery Offers on Same Scale*.



This graph shows the number of acceptances of all email and social media offers for mystery book purchases, by date using the same scale for easy comparison.

5. Import and Share Your Data with Dashboards

Dashboards provide powerful resources for proactive data monitoring. You can share your custom dashboards with anyone inside or outside of your organization. Dashboards allow you to create graphs and visualizations that you can easily resize and reposition.

Create a Dashboard

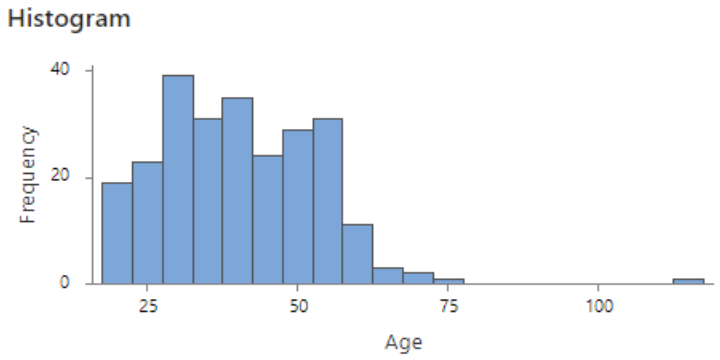
In this example, a marketing analyst wants to investigate the age of the customer. The analyst wants to add a histogram that shows the distribution of ages.

1. From the **Home** screen, select the **Minitab Connect** button to open the **Navigation** pane. Under **Dashboards**, select **Add New Dashboard**.

   Or, from the **Home** screen, select the **Add** button under **Dashboards**.

2. Select **Add Data**.
3. Select the **Folder** and **Table** that contain the saved data view. Then in **Select a data view**, select **Online Downloads**.
4. Select **Open View**.
5. Select the **Assets** icon and double click **Histogram**.
6. Select **Open**.
7. In **Continuous variables** enter *Age*.
8. Select **Create**.

The dashboard now displays the histogram.



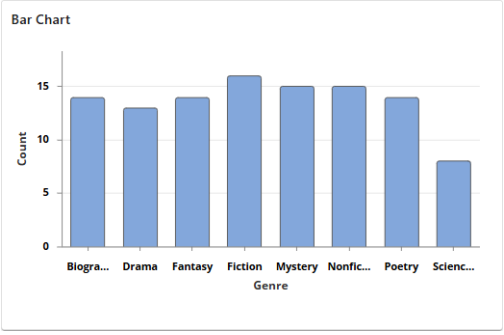
The histogram shows an age well above 100 years. This outlier alerts the analyst, who decides to investigate the reason for the incorrect data point.

Add a slicer to your dashboard

Add a slicer to the dashboard to easily narrow a number range, date range, or set of categories instead of creating a new view with that filter in the table.

In this example, the marketing analyst knows that their supervisors are interested in customers between the ages of 40 and 60. The analyst creates a bar chart to show the number of books per genre that customers buy. Then, the analyst adds a slicer in the dashboard to show only customers between the ages of 40 and 60.

1. Select the **Assets** icon and double click **Bar Chart**.
2. Select **Open**.
3. In **Categorical variables** enter *Genre*.
4. Select **Create**. Expand the chart to better view the y-axis scale.
5. Select the **Assets** icon and under **Controls**, double click **Number Range Slicer**.
6. On the **Number Range Slicer** pane, under **Select one or more variables** select *Age*.
7. In the number range, enter 40 for the lower endpoint and 60 for the upper endpoint.



Each dashboard asset displays only data for customers aged 40 to 60. The analyst sees that this group purchased between 13 and 16 books in each genre, except Science Fiction, which had only 8 purchases.

Share the dashboard

You can easily create a unique URL to share your custom dashboard with anyone inside or outside of your organization. In this example, the analyst shares the dashboard with their supervisors.

1. Select the ellipses ••• and select **Save**.
2. Under **Dashboard Name**, enter *Online downloads dashboard*.
3. Select a folder and select **Save**. Return to **Edit** mode.
4. Select the ellipses ••• and select **Share**. The dialog displays two links that display the view-only version of the dashboard. You can share an **Internal Link** with anyone that has a Connect subscription. You can share a **Public Link** with anyone, even if they don't have a Connect login, because Connect appends a restricted apikey to the URL.

   Note: Only users with the **Admin** and **Developer** roles can share a **Public Link**.

5. Copy a link to your clipboard, and select **OK**. You can now share this link with anyone to give them access to view the dashboard.

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