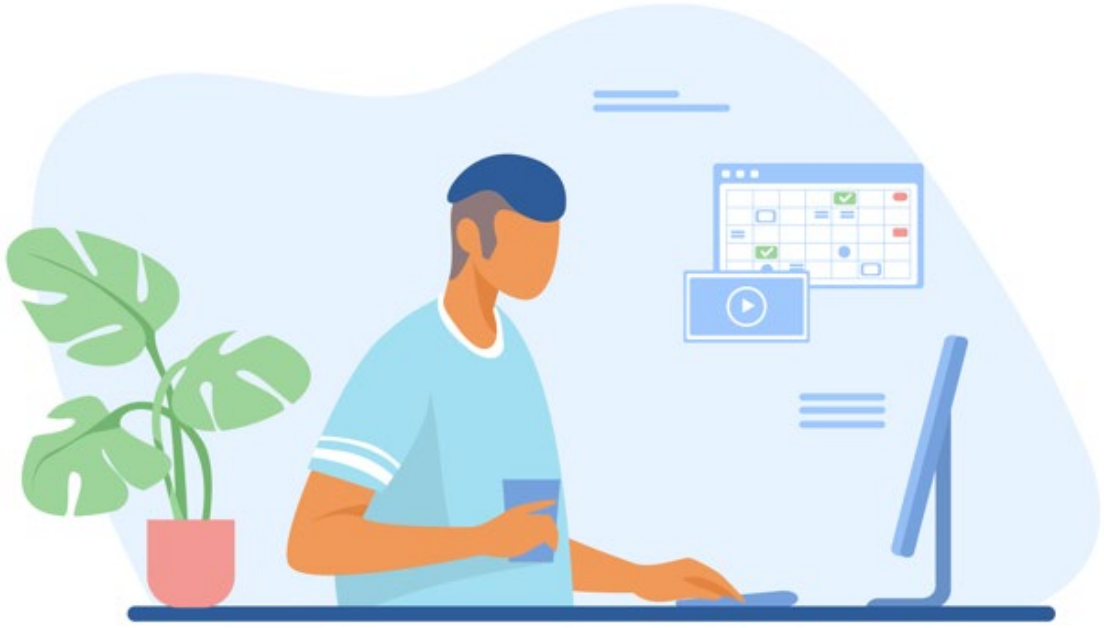
AcuWorkflow



Smart**Backup**

Admin Restore Guide

Version 022226A

SmartBackup Restore Guide

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Introduction

This document provides information on how to restore Smartsheet items or data from the online and offline backup copies created by SmartBackup LiveCopy and ShadowCopy.

Note that this document is not a complete and exhaustive list of all possible scenarios, but only a subset of some of the more common restore scenarios. Refer to the SmartBackup Documentation Portal and to the Smartsheet website for additional information.

Overview

With SmartBackup, there are two primary ways to restore data or items from the online and offline backup copies to Smartsheet. These are:

1. Copy sheets, rows, or data from the online backup copies created by the SmartBackup "LiveCopy" function in the "vault", to the target sheet.
2. Import and format sheets, rows or data from the offline backup copies created by the SmartBackup "ShadowCopy" function, to the target sheet.

Of these two options, #1 – copy from the online backup copies in the vault – will always be the best option, if these online backup copies are available, as they are the "richest" copies available across any of the available backup solutions. It is also the easiest way to locate the last valid backup copy, and the easiest way to copy and restore a sheet, or rows or cells, and the best way to find reference data such as column types and formats, and column data such as dropdown lists, etc.

If #1 online backup copies are not available, then the next best option is #2 – import from offline backup copies created by ShadowCopy. In this case the process is a bit more complex, but with SmartBackup you will have access to the most comprehensive version of the sheets and data from an external file, possible today.

Restore Option #1: Copy from online backup copies in the Vault

In this scenario, if you have a need to restore a sheet, rows, or cell values from the online backups, then you would fist locate the most recent valid copy of the sheet/data in the SmartBackup Vault workspace for the individual who is the Owner of the original sheet, and then you would simply copy the sheet, rows, or cells from that valid online backup copy to the original sheet.

The specific steps will depend on exactly what you would like to do, as described below.

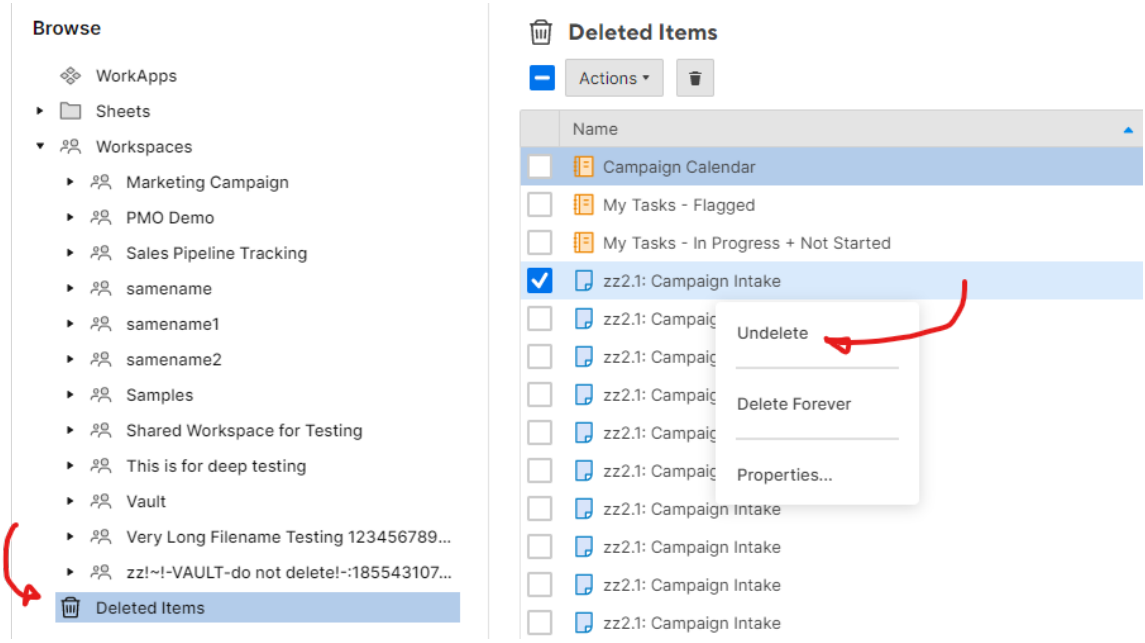
Notes:

- These steps will need to be completed by the Owner of the original sheet, and all the online backup copies will be in the Sheet Owner's SmartBackup Vault workspace.
- The SmartBackup Administrator will be able to perform these procedures only if the Administrator has admin rights to the Sheet Owner's SmartBackup Vault workspace and to the target sheet/workspace.

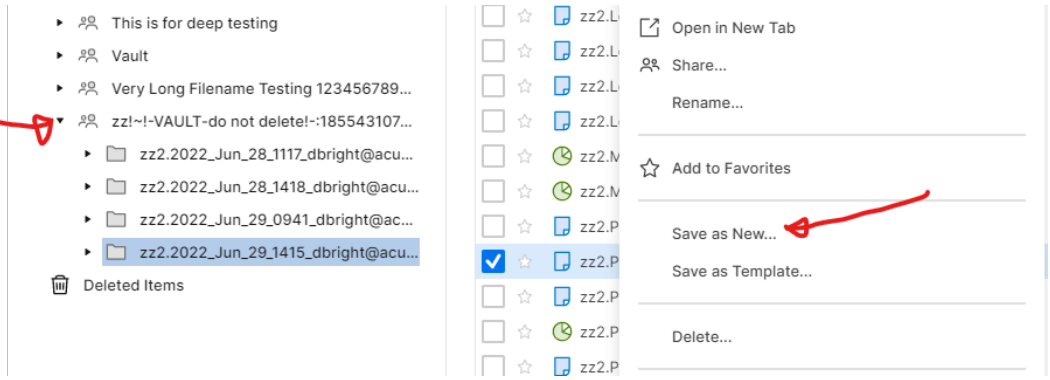
Restore an Entire Sheet:

In this case, there may be several related sheet restore scenarios - such as if a sheet is deleted completely, or when only all rows in a sheet get deleted, etc.

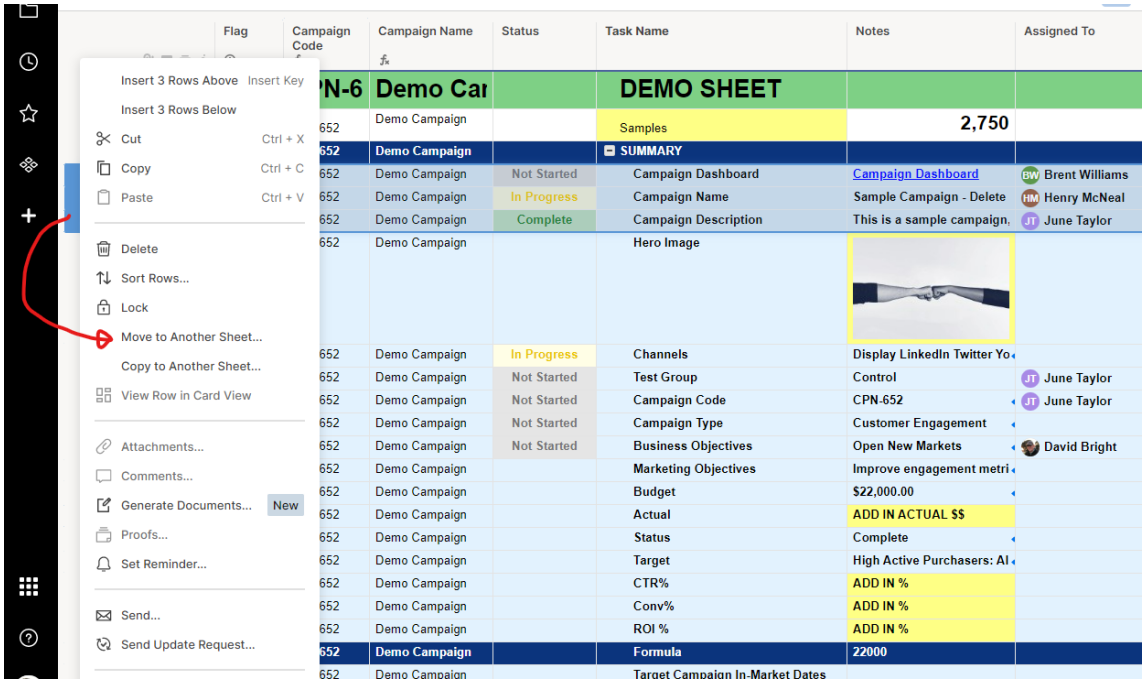
- **CAUTION**: In Smartsheet, it is important to note that if a Sheet is deleted, and then if the deleted version is also permanently deleted from the "Deleted Items" folder using the "Delete Forever" command, then it will never be possible to restore that specific Sheet, with its original Sheet ID.
- **Best option to Restore a Deleted Sheet**: if a Sheet gets deleted, and it is still in the "Deleted Items" folder, then the best way to restore the Sheet is to use the "Undelete" command in the Deleted items folder. This will restore the last version of the Sheet, with all data, formatting, links, attachments, conversations, forms, cell history, and automations, etc., intact. This will always be the BEST OPTION for restoring a deleted sheet.



- **Restore a Sheet that has been Permanently deleted**: In all cases, it is possible and easy to create a new Sheet from the online backup copies in the SmartBackup Vault, simply by finding the most recent backup copy and using the **"File > Save as new…"** function. This process will create a new Sheet, which will have its own unique Sheet ID.
- Once the new sheet has been created, you will need to rename as needed, and you will need to update any Reports and Dashboards that were using the original sheet and point to the newly created Sheet.



- **Restore a Sheet using the Copy online Backup Sheet and Move Rows approach**: If you encounter a situation where all the Rows in a Sheet have been deleted, but the Sheet is still available, then it will be possible to restore all the Rows by locating the most recent online backup copy of the Sheet in the SmartBackup Vault, then first make a copy of the online backup copy using the "Save as new.." command. Next, open the copy that you just created, then select all the Rows and use the **"Move to Another Sheet"** row command, and point to the original sheet. This will ensure that any Attachments and Conversations will also be moved together with the Rows to the original sheet. After you have confirmed that all the rows have been moved to the original sheet, you can go ahead and delete the copy of the online backup sheet that you created.



Restore selected Rows in a Sheet:

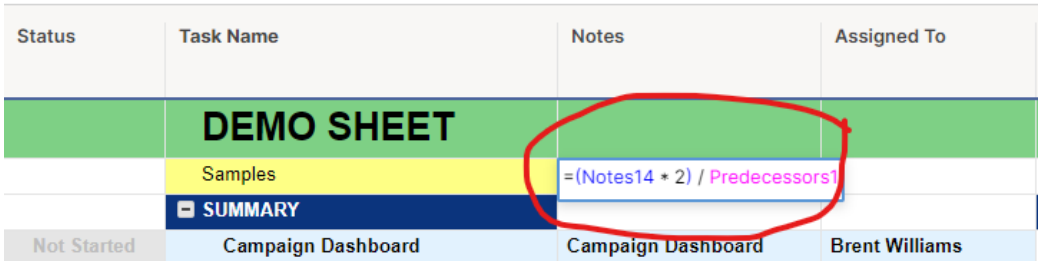
- In this case, if only a few Rows have been deleted from a Sheet, then you can follow a similar approach to the above-mentioned approach using the Copy online Backup Sheet and Move Rows method. In this case you would locate the most recent online backup copy of the Sheet in the SmartBackup Vault, make a copy of that online backup sheet, then open the new copy, select the Rows that you would like to restore and use the **"Move to Another Sheet"** row command, and then point to the original sheet. This will ensure that all Attachments and Conversations are moved as well. Once you have confirmed that the rows have been moved successfully, you can go ahead and delete the copy of the online backup sheet that you created.
- This will add the restored Rows to the bottom of the original sheet, so you will also then need to move the restored rows to the appropriate location in the Sheet.

Restore selected Cells in a Sheet:

- In a similar way, if you need to restore only certain cells in a Sheet, then you would locate the most recent online backup copy of the Sheet in the SmartBackup Vault, and then select the Cell(s) that you would like to restore and use copy and paste back to the original sheet.

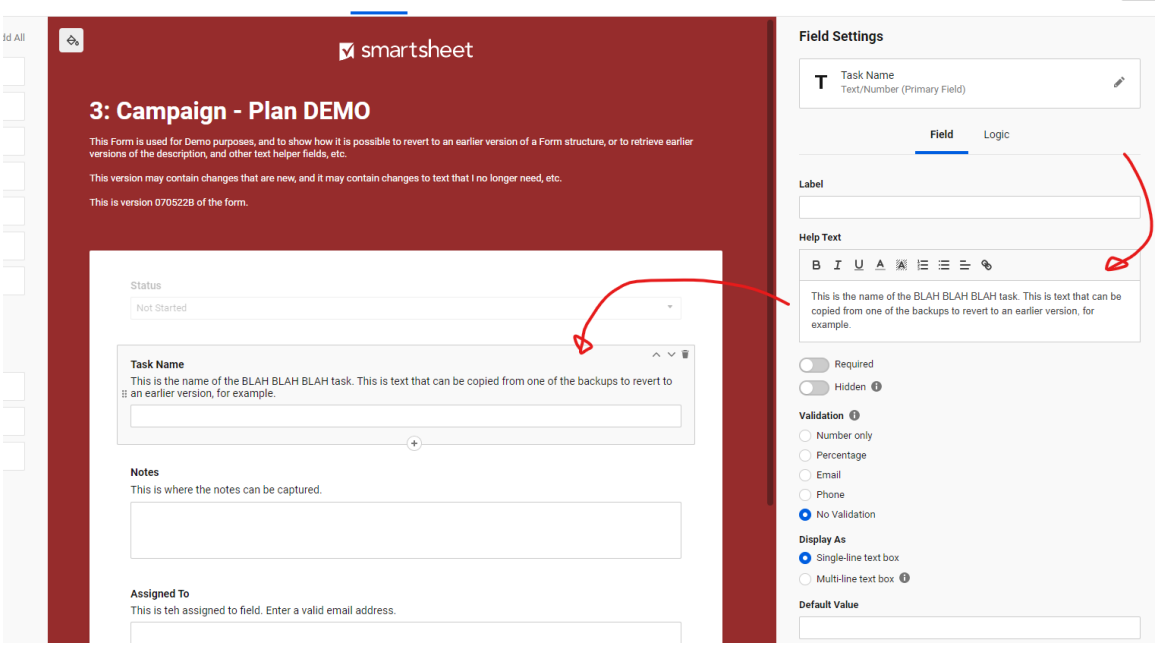
Special Case: Revert to an earlier version of a Formula:

- If you have a situation where a formula was deleted, or overwritten, then you can follow a similar approach to restoring a cell, by first locating the most recent online backup copy of the Sheet in the SmartBackup Vault, and then locate the Formula you need to restore, then double click into the cell so that you can select the formula, and then you would use copy and paste to copy the formula back to the original sheet.



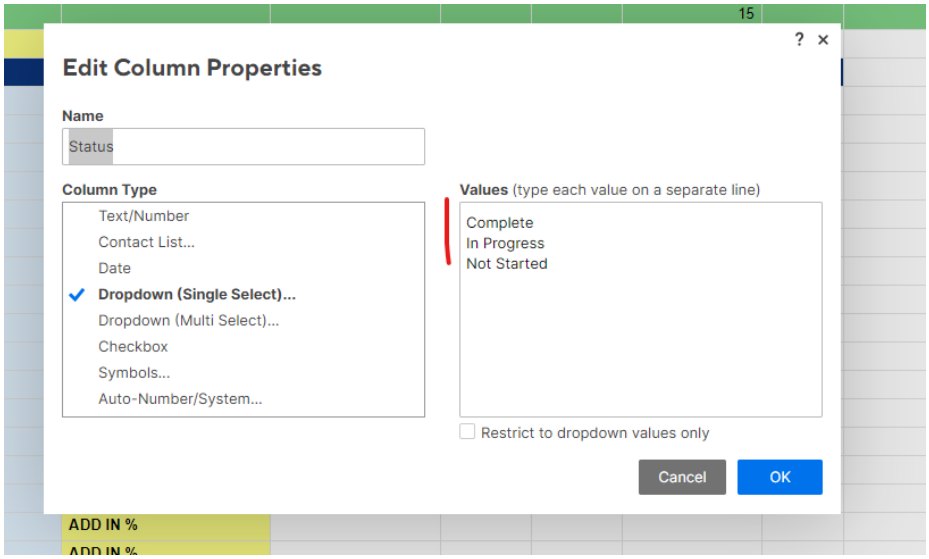
Special Case: Revert to an earlier version of a Form:

- You may also encounter a situation where a Form has been modified, and you would either like to revert to an earlier version of the Form, or you would like to revert to an earlier version of the text fields in the Form.
- In this case you would locate the most recent online backup copy of the Sheet in the SmartBackup Vault, then open the Form that you would like to restore/revert from and then you would be able to use that as a reference to recreate a Form if it was deleted, or you could copy and paste any text fields as needed.
- Note that there is no function in Smartsheet to “copy” or “restore” a Form unfortunately, so if a Form was deleted, then the only option will be to create a new Form. However, with SmartBackup you will be able to see what the Form looked like because you have it in the online backup copies in the vault.



Special Case: Revert to an earlier version of a Drop-Down list:

- Similarly, you may also encounter a situation where a Drop-Down list in a column has been modified, and you would like to revert to an earlier version of the Drop-Down options.
- In this case you would locate the most recent online backup copy of the Sheet in the SmartBackup Vault, then open the Column Properties for the column with the Drop-Down list that you would like to restore/revert from and then you would be able to use that to copy and paste the options list as needed.



Restore Option #2: Import from offline backup / ShadowCopy copies on the SmartBackup Server

In this scenario, we are assuming that you do not have an online backup copy of the sheet or data in the Sheet Owner's SmartBackup Vault workspace or Smartsheet Deleted Items folder, and you now need to locate and restore an entire Sheet, some of the rows, or one or more cells, or data.

Notes:

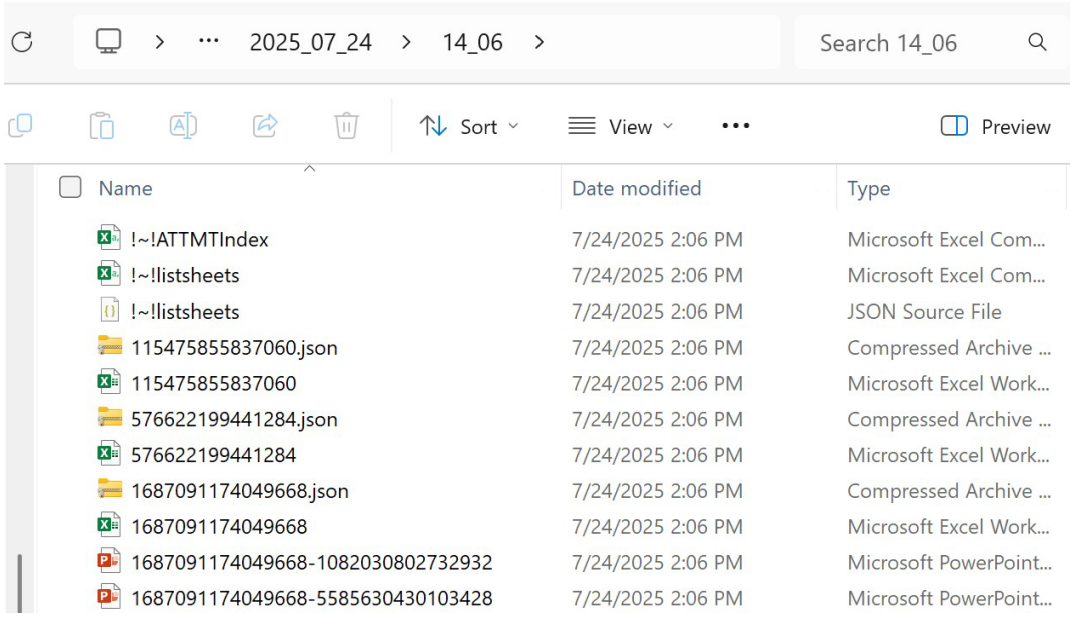
- Refer to the Smartsheet API Documentation portal for specific details on the formatting rules and tables: https://developers.smartsheet.com/api/smartsheet/introduction
- Note that offline backup files that are created by ShadowCopy are saved in the "Export" sub folder in the SmartBackup install folder on disk, together with their associated "metadata" files.

Restore an Entire Sheet using the Import Function:

In this case, the SmartBackup Administrator will be restoring a complete sheet for a specific user, from an offline backup copy that was created by the SmartBackup ShadowCopy function.

Step 1: Locate the Most Recent Backup Copy

- The SmartBackup Administrator will first need to locate the most recent, "last known good" offline backup copy of the sheet that needs to be restored. By default, these ShadowCopy backup copies will saved in the c:\SmartBackup\user\export folder on the server where SmartBackup is installed.
- In this folder there will be sub-folders for each user, and in the "user" folder there will be sub-folders containing offline backup copies for each day that the ShadowCopy function ran.
- Then by drilling-down into the folder structure for the target user, the Administrator will be able to locate the most recent "last known good" version of the original sheet. Note that for **ShadowCopy** the file names use the original Sheet ID instead of the Sheet Name for the filename. Use the manifest file named "`!~!listsheets`" to find a list of Sheet IDs and Sheet names.
- When using **ShadowCopy**, the Sheets are saved in Excel file format together with zip files that contain the associated sheet metadata in ".json" format. First extract the .json file from the Zip file, then view the .json file.
  - PRO TIP: It is best to view these .json files using tools such as Visual Studio Code, or Notepad++.
- All these files will be used to restore the sheet and to get as close to the original sheet as possible.



Example of file list when using ShadowCopy

Step 2: Import the Excel file to create the new Sheet

- Now the Administrator should first make a copy of the zip file or ShadowCopy files to a local drive, and then “unzip” the files so that the uncompressed versions of the contents are available for the restore process.
- Before importing the Excel file, the Administrator will need to first identify the Primary Column in the sheet. To do this, open the .json file for ShadowCopy files using a suitable text editor. Then scroll through the list of columns to locate the column that has the setting: "primary": true. This denotes the original primary column.
- Next the Administrator will log into Smartsheet and use the standard Smartsheet “Import Microsoft Excel File” function to a create a new sheet and will use the Excel file from the offline backup copy as input. During the import process, be sure to select the correct Primary Column. At this point as an optional step, it will also be possible to rename the new sheet. In the case of ShadowCopy the new sheet will use the original Sheet ID as a name, so it will need to be renamed to the original Sheet Name as well.
- At this point, a new, restored copy of the Sheet will be available. This new Sheet will have all the cell data from the offline backup copy, and it will also have some formatting applied. If there was any indentation applied to the original sheet, then it will also be preserved in this new Sheet.
- Note that this new restored sheet will saved in an account or workspace defined by the Administrator – and will eventually need to be shared with the original user, and the original user will need to take ownership of the restored sheet.

Step 3: Reformat and Add Missing Information

- You will notice that Smartsheet does quite a good job of importing the data from the exported Excel copy and guessing at some of the settings such as dropdown lists and column

types, but it will always be necessary to confirm all column types, dropdown lists and add in any missing information such as hyperlinks, etc.

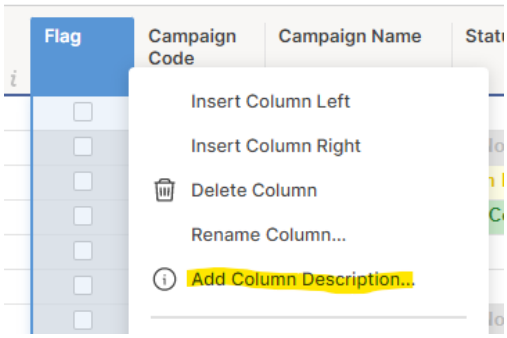
- Using the . json metadata file (**ShadowCopy**), you will now need to go through the list of columns and confirm that each column is formatted correctly, or make the necessary changes as needed. This can include column type, dropdown lists, formulas, etc.

Here are a few examples:

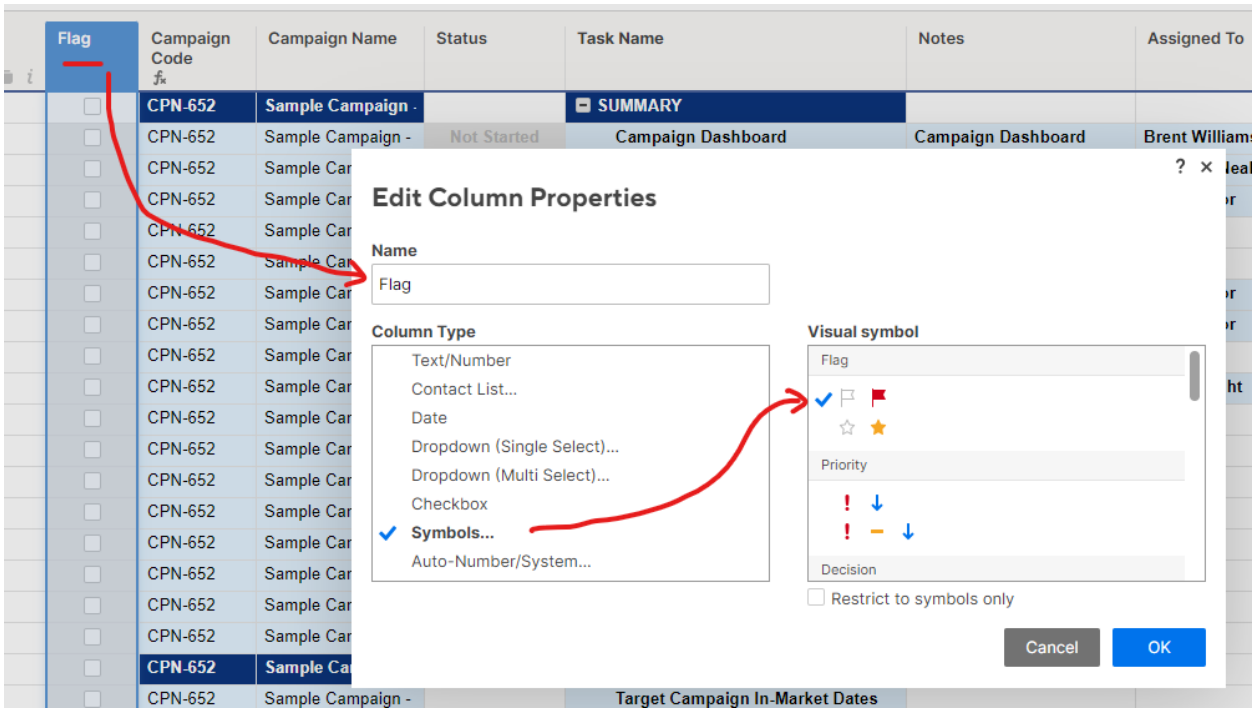
Checkbox Column Example:


```
"columns": [
    {
        "id": 8387618783160196,
        "version": 0,
        "index": 0,
        "title": "Flag",
        "description": "Flag to have line item added to status report for discussion.",
        "type": "CHECKBOX",
        "symbol": "FLAG",
        "validation": false,
        "width": 75
    },
```


In this example, you may need to copy the text in the “description” field and add that to the “Flag” column in the new Sheet using the “Add Column Description” option in the column menu.



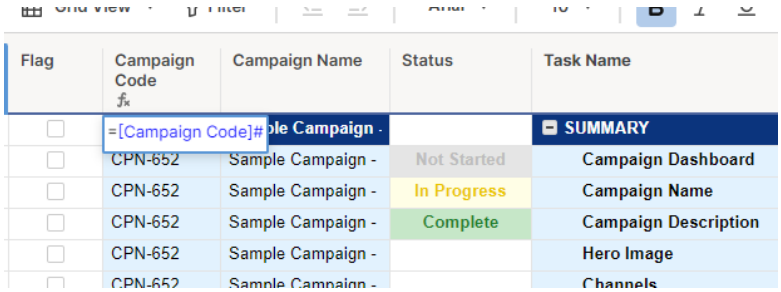
Similarly, you will need to confirm that the column type is set to “Type: Checkbox” and “symbol: Flag”. This means that the new column should be set to a “Flag” column type.



Column Formula Example:

```
{
    "id": 1069269388683140,
    "version": 0,
    "index": 1,
    "title": "Campaign Code",
    "formula": "=[Campaign Code]#",
    "type": "TEXT_NUMBER",
    "validation": false,
    "width": 94
},
```

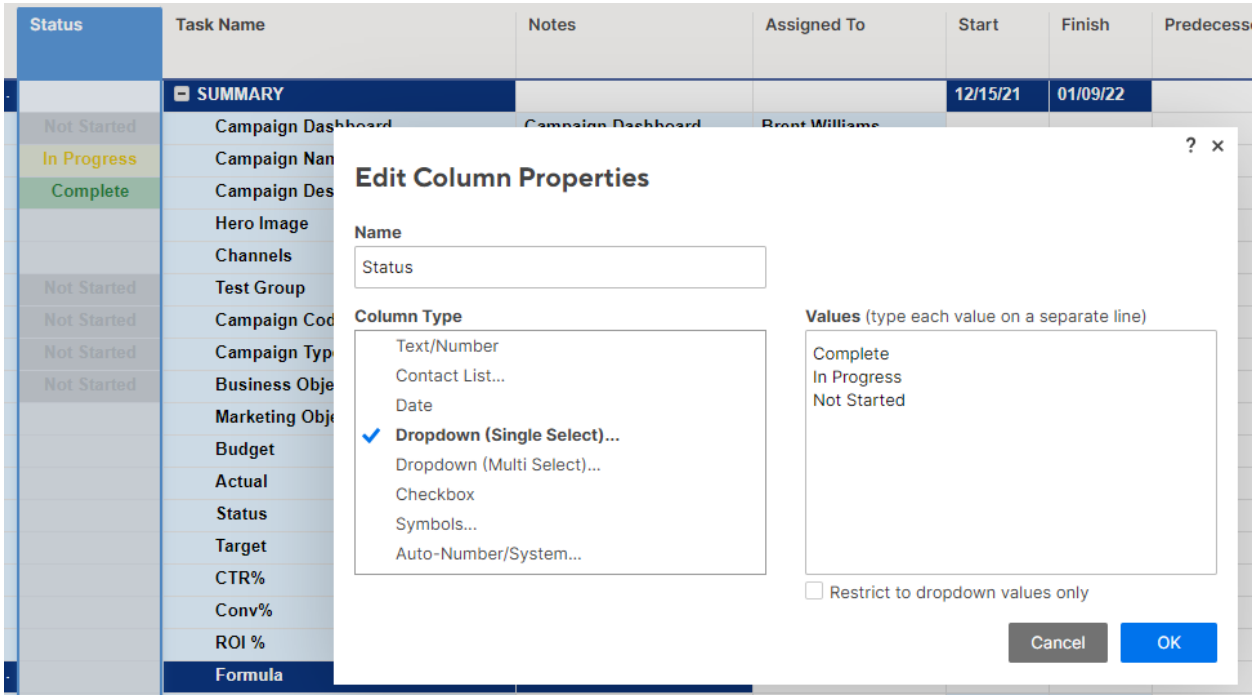
In this example, you would check and confirm that the column type is set to “Text/Number”, and then you would copy the formula and paste it into the first cell of the column, and then convert the cell formula to a column formula.



Dropdown Column Example:


```
{
    "id": 3321069202368388,
    "version": 0,
    "index": 3,
    "title": "Status",
    "type": "PICKLIST",
    "options": [
        "Not Started",
        "In Progress",
        "Complete"
    ],
    "format": ",,,,,,2,,,,,,,,,,",
    "validation": false,
    "width": 113
},
```


In this example, using the “Edit Column Properties” command, and confirm or set the column type to “Dropdown”, and edit that Values to “Not Started”, “In Progress”, and “Complete”.



Note that this example also includes the column formatting information, which is described as:

"format": ",,,,,,2,,,,,,,,,",

By referencing the Format property in the Smartsheet API documentation, you will be able to see that the “2” value in the sixth position indicates that the column horizontal alignment is set to “Center”.

Formatting Rows

Following a similar strategy, it will be possible to review and confirm the formatting, formulas, cell links, etc. for all the Rows in the new Sheet by comparing the Row data in the packingnote_sheet text file.

Row Formula Example:


```
{
    "columnId": 4446969109211012,
    "value": "2021-12-15T00:00:00",
    "formula": "=MIN(CHILDREN())",
    "format": ",,1,,,,1,1,2,39,,,,,,,"
},
```


In this example, the metadata indicates that this cell contains a Date value, and because it is a parent row, it also has a built-in formula to calculate the earliest start date in the child rows.

You can also use the "format" value string to figure out the formatting for the cell from the Format Table in the API documentation.

Attachments

If the original Sheet had Attachments, then you will also be able to re-attach the attachments. The offline backup copies of the Attachments are saved in the same folder as the sheets when using ShadowCopy, and the details of each Attachment are described in the !~!ATTMTIndex file when using ShadowCopy.

Example:


```
"data": [
    {
        "id": 6773124504020868,
        "name": "Screenshot (126).png",
        "attachmentType": "FILE",
        "mimeType": "image/png",
        "sizeInKb": 255,
        "parentType": "ROW",
        "parentId": 1187568726370180,
        "createdAt": "2022-05-09T14:45:21Z",
        "createdBy": {
            "name": "David Bright",
            "email": "dbright@acuworkflow.com"
        }
```

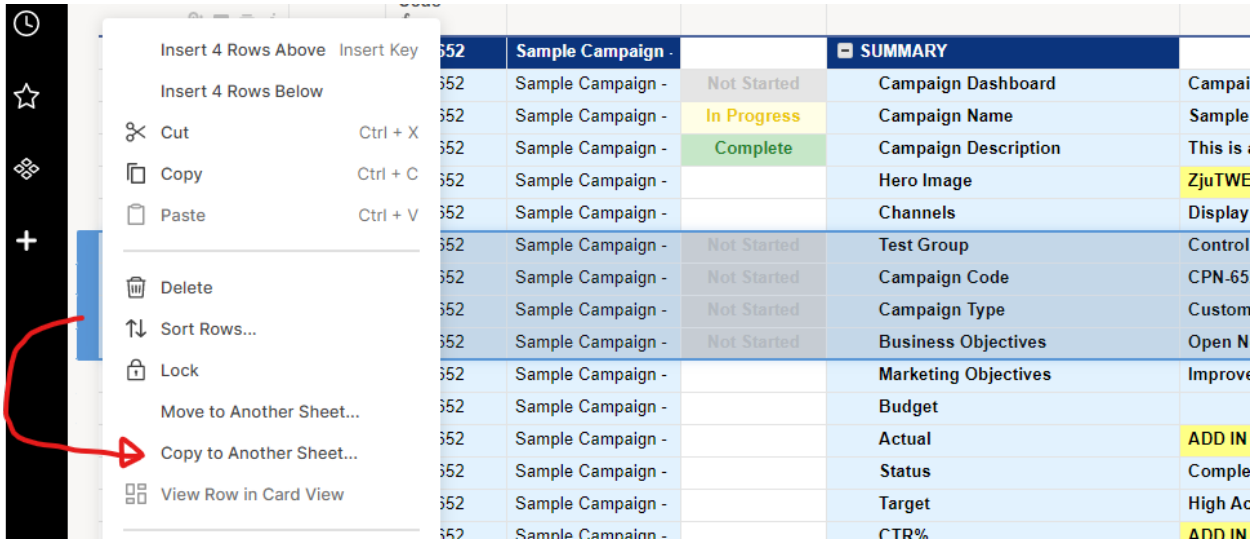

In the .json file for the sheet, you can see that in this case the first attachment is attached to the row with the ID = 1187568726370180, and you can also see that the name of the attachment is "Screenshot (126).png", which happens to be a PNG image.

When using ShadowCopy, you will use the ATTIndex files to find the attachment name. The filename of the attachment already contains the original Sheet ID for the sheet that it was attached to.

Restore selected Rows in a Sheet:

- In this case you would first create a new copy of the sheet using the Import process as described above, but without reapplying all the formatting details in the .json file. That additional information is not required in this case, as the original Sheet is still intact. It is just that a few rows may have been deleted or overwritten.

- Next, once the new sheet has been created in Smartsheet, you will be able to locate the Rows that need to be restored, and then you would use the “Copy row to another sheet” option in the row menu to copy to the original sheet.



- Once the new rows are in the original sheet, you would then “move” the new rows into the correct location/position in the original sheet – making sure to delete any corrupted rows if needed.
- Once the rows have been restored, you can safely delete the imported version of the backup sheet.

Restore selected Cells in a Sheet:

For this scenario, there are at least two ways to restore a selected cell from a ShadowCopy offline backup copy. This includes (1) Copy from an Imported version of the sheet, or (2) Copy directly from the Excel backup file.

- **Copy from Imported Sheet**: In this case you would first create a new sheet using the Import function as described above. Then once the sheet is available in Smartsheet, you would identify the cell(s) that you would like to restore, then simply copy the cell and paste it back into the original sheet, overwriting the existing content of the cell(s).
- **Copy from the Excel File**: In this case, you would first locate the Excel file of the ShadowCopy offline backup copy, open it and locate the cell(s) that you would like to restore. Then copy the cell(s) and paste back to the corresponding cell in the original sheet.

In both above cases, if the original cell contained a formula instead of a simple Text/Number value, then you would need to refer to the .json file associated with the **ShadowCopy** file, locate the row that contains the cell, and then find the formula in that row. Once you have that you will be able to copy the formula and paste it back into the corresponding cell in the original sheet.

Special Case: Revert to an earlier version of a Formula:

As mentioned above, if you need to restore to an earlier version of a Formula in a Cell in a Row, or if a Formula gets deleted, then you would need to refer to the .json file for **ShadowCopy** offline backups, locate the row that contains the cell, and then find the formula in that row. Once you have that you will be able to copy the formula and paste it back into the corresponding cell in the original sheet.

Example:


```
        {
            "columnId": 2195169295525764,
            "value": 2750.0,
            "displayValue": "2,750",
            "formula": "=(Notes14 * 2) / Numbers1",
            "format": ",5,1,,,,,3,1,2,,,0,1,1,,"
        },
```


Note that if you would like to revert to an earlier version of a Column Formula, then you would follow a similar process, but you would locate the formula in the “columns” section of the .json file for **ShadowCopy** files and then copy and paste that formula into the “column formula” in the original Sheet.

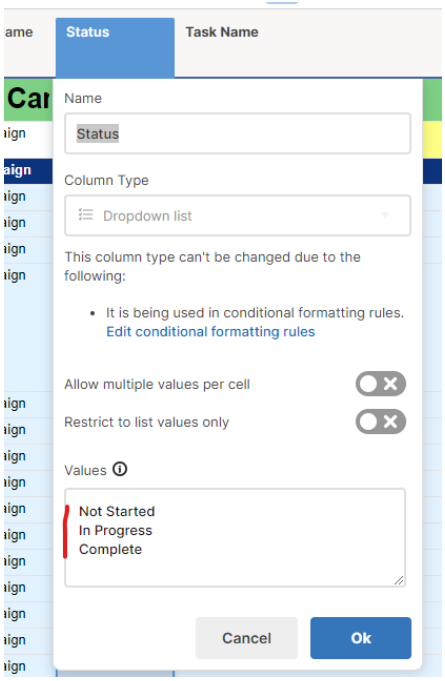
Example:


```
    {
        "id": 1069269388683140,
        "version": 0,
        "index": 1,
        "title": "Campaign Code",
        "formula": "=[Campaign Code]#",
        "type": "TEXT_NUMBER",
        "validation": false,
        "width": 94
    },
```


Special Case: Revert to an earlier version of a Drop-Down list:

In this case you would open the .json file for **ShadowCopy** files and find the column with the drop-down list and then copy the list of options and paste them into the column settings of the original sheet.


```
    {
        "id": 3321069202368388,
        "version": 0,
        "index": 3,
        "title": "Status",
        "type": "PICKLIST",
        "options": [
            "Not Started",
            "In Progress",
            "Complete"
        ],
        "format": ",,,,,,2,,,,,,,,,",
        "validation": false,
        "width": 113
    },
```



Special Case: Revert to an earlier version of an Attachment:

To restore an earlier version of an attachment from the ShadowCopy offline backup copies, do the following:

1. Open the original sheet
2. Go to the “Attachments” section
3. Click the add an attachment option
4. Then navigate to the backup folder
5. Open the “!~!ATTMTIndex” file to locate the Sheet ID, Attachment ID and Attachment Name
6. Then use the “SheetID-AttachmentID” combination to locate the offline backup copy of the attachment that you would like to restore
7. Then simply rename and attach the older version of the attachment to the sheet or row as needed.

Be sure to delete any incorrect versions of the attachment.

Special Case: Restoring from HSO Offload files

The High Speed Offloader/Onloader (HSO) solution from AcuWorkflow is designed to address specific use cases that are different from the SmartBackup use cases. However, because it is possible that some SmartBackup customers are also using HSO for data offload requirements, it may be useful to provide information in this guide on how to restore a sheet or sheet data from files offloaded by the HSO Offloader function.

HSO includes two primary functions: HSO Offloader, and HSO Onloader. HSO Offloader makes copies of Smartsheet Workspaces and exports them and saves them to a designated file store outside of Smartsheet, while HSO Onloader is designed to import Workspaces that were exported by HSO Offloader, back into Smartsheet. HSO is primarily a "data mover" solution.

For those SmartBackup customers that have a need to "offload" or export all their data in Smartsheet in addition to the regular incremental exports available when using ShadowCopy, then they can use HSO for that purpose.

Then, if there is a need to restore sheets from the HSO exported data, there are several restore scenarios that can occur, including restoring an entire Workspace, restoring an individual Sheet, or restoring only specific row or cell data.

Restore Workspace

To restore an entire Workspace, the best process will be to use HSO Onloader. This process is described in detail in the HSO documentation.

NOTE: If a workspace is being uploaded using HSO Onloader, and the associated config.yml file has not been customized since the workspace was offloaded, then the HSO Onloader will create a DUPLICATE workspace in the user's Smartsheet account. To avoid issues, once the workspace has been restored, it should be renamed immediately so that the user knows that it is a copy of the original.

Then, with the workspace restored, the user can copy sheets or data from the restored workspace to the "production" workspace as needed.

Restore Sheet

If an individual Sheet needs to be restored, then the best process to follow will be to first use the SmartBackup End User Restore Guide. Then if that does not work or apply, then it will be possible to import a new copy of the target sheet back into Smartsheet from the HSO Offloaded files.

1. Locate the most recent HSO Offload folders on the SmartBackup server or storage location. By default, this path will be: C:\HSO\users
2. Next, locate the user's folder, and the most recent Date Stamped subfolder and Time Stamped time folder. For example: C:\HSO\users\michael.jackson.eu@acuworkflow.net\2025_07_22
3. In that folder you will find a list of all the folders that were included in the original Workspace, and in each of those folders you will find details of the Workspace, and the content of the folder, including a list of the sheets and sheet names.
4. Open the "!~!sheets" file using a tool such as Visual Studio Code or Notepad to see the list of SheetIDs and sheet names. Use this list to locate the target SheetID.

5. Now that you have identified the exported copy of the Sheet, you can import that sheet back into Smartsheet using the processes defined in the earlier sections of this guide.

Restore Row or Cell Data

To restore only specific rows or cell data from one of the exported files, do the following:

1. Use the steps above top locate the exported sheet.
2. Open the sheet in Excel and locate the rows or cells you would like to restore from.
3. Copy the data from the Excel copy and paste it into the original Sheet in Smartsheet.
4. Alternatively, you could also import the sheet back into Smartsheet as above, and then copy the rows or cell data back to the original sheet.

When complete, remember to delete the imported copies that are no longer needed.

Restore Capabilities Disclaimer

Note that SmartBackup uses the Smartsheet API to perform all online and offline backup functions, and while the Smartsheet API enables the functionality available, it also has numerous deficiencies and limitations. These limitations prevent us from being able to recreate all the details and characteristics associated with some Sheets from the online and offline backup data created from the Smartsheet platform.

Additional Information

For more details about SmartBackup and for detailed solution documentation, please refer to the SmartBackup Documentation Portal, which can be found here:

https://sbudocs.acuworkflow.com/

Information about the SmartBackup solution, including overview videos, use cases, benefits, and how to acquire the solution can be found on the AcuWorkflow website here:

https://www.acuworkflow.com/

Information about AcuWorkflow and SmartBackup and our relationship with Smartsheet can be found on the Smartsheet Solution Center here:

https://www.smartsheet.com/marketplace/apps/smartbackup-smartsheet

If you have any other questions or feedback, please contact us at:

support@acuworkflow.com