

CS463615

Leveraging data through ACC Connect and Forge

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Learning Objectives

- Gain a clear understanding of how PlanGrid links to BIM 360, and how this will streamline your project workflows.
- Discover how easy it is to use PlanGrid Connect, and how using it will make your current process more efficient.
- Discover how integrating with external systems such as What3Words will enable the user to understand a new dimension to the data.
- Learn how to use PlanGrid Connect to capitalize on the collection of data in a structured manner to automate the design process using Dynamo.

Description

This masterclass will cover how to link PlanGrid with next-generation BIM 360 Docs software by utilizing the power of data collection through BIM 360 workflows and PlanGrid field reports. The speaker will be able to demonstrate the added benefit of being able to maximize data for trend analysis via Microsoft Power Bi and automatic modeling by integrating the output with Dynamo software. We will cover basic principles of PlanGrid and usability for the average user, alongside best practices, workarounds, shortcuts, limitations, and benefits. We will explore an array of case studies, giving live project application examples and how they've integrated with external tools, such as What3Words.

Speaker

I'm a Digitalisation manager for Skanska UK, with a background in delivering digital solutions to site. Most currently being part of @oneAlliance working to make Digital Project Rehearsal business as usual. I'm keen to drive change in projects behaviors through finding more efficient ways of working using digital technologies, to increase productivity and decrease health and safety risks.



Useful links and pointers

In this section I have compiled a list of useful links and tips that will help you get started

ACC Connect Links

ACC Connect Overview - <https://construction.autodesk.com/connect>

ACC Connect Login - https://app.workato.com/users/sign_in

Forge Links

This link is a great starting point to understand how to use forge, there's no link to ACC connect with these tutorials but a great place to start if you want to understand more about Forge - <https://learnforge.autodesk.io/#/>

This link contains all the documentation you need to know about Forge End points - <https://forge.autodesk.com/developer/documentation>

Tips

1. Comment all the steps as you go along
2. Use as many Data pills as possible, this will make the recipe as re-usable as possible.
3. When you test your recipe for a second time you can use the Repeat job button on the top right-hand side of the test area. This means you don't need to manually go back and perform the trigger action.

Questions you might have

1. **I don't have or know if I have access to ACC Connect who can I contact?**
Customers should contact their Autodesk Account Executive to get access to ACC Connect.
2. **Is there a FAQ site for ACC Connect?**
Here's a short link to the ACC Connect help site: <http://bit.ly/acc-connect-help>
3. **Is there a ACC Connect support email**
acc-connect@autodesk.com
4. **Is there any public free videos that I can point them to**
The short link above has demos and templates available. (question 2)
5. **Any other supporting content that I can send them to?**
docs.workato.com/

Linking ACC Connect to your BIM360 and Plangrid accounts

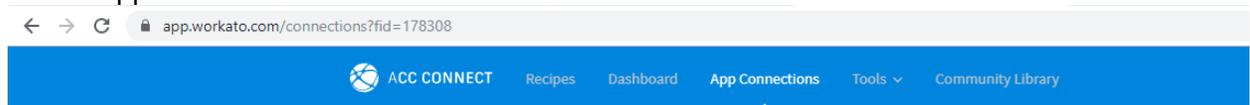
In the method below I am showing you how to link to Plangrid. These steps are also used for linking to BIM360.

Link to Plangrid help - <https://docs.workato.com/connectors/plangrid.html#how-to-connect-to-plangrid-on-workato>

Link to BIM360 help - <https://docs.workato.com/connectors/bim360.html>

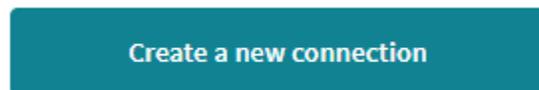
Connecting to PlanGrid

1. Select App Connections

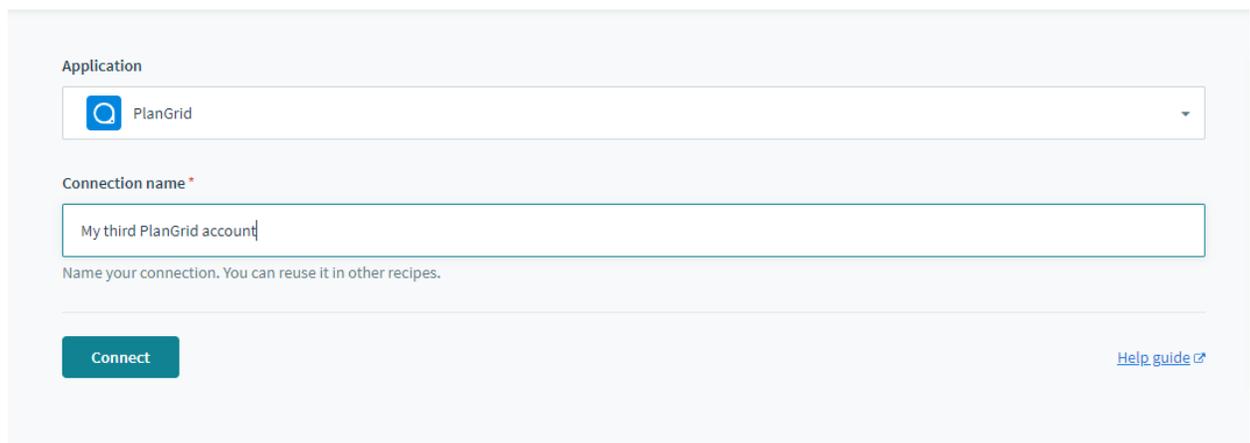


App Connections

2. Select Create a new Connection



3. Under Application search for Plangrid and give it a name.

The screenshot shows a form for creating a new connection. It includes a dropdown menu for 'Application' with 'PlanGrid' selected, a text input field for 'Connection name' containing 'My third PlanGrid account', and a 'Connect' button. A 'Help guide' link is visible in the bottom right corner.

4. Follow instructions on screen and log into your plangrid account



PlanGrid

Login to continue

Email

NEXT

- Once you have logged in allow for permissions to be shared between PlanGrid and Workato

PlanGrid

Logged in as tom.denby@skanska.co.uk (Log out)

Give Workato Permission?

 ↔ 

Workato is requesting permission to:

Access and manage your project data

This includes your sheets, issues, photos, documents and other project data.

Know who you are on PlanGrid

This includes your full name and email address.

Only give permission to apps you trust.

GIVE PERMISSION

[Don't give permission](#)

- You're done. Your account is now linked and ready to be used in your recipes

Notes on Step one

Creating an App and collecting data

1. This is a simple process give do the following steps
 - a. Name – Name of the recipe
 - b. Folder – Where do you want the recipe to be stored
 - c. Start point – for this example we use a trigger, this means when a condition is met the recipe will be triggered to start
2. Getting the PDF URL, using the data pill from the previous step we can access information stored in the output of that step. In this case PDF URL. More information on data pills here - <https://docs.workato.com/features/fixed-dynamic-lists.html#using-list-data-pills-in-actions>
3. What is a variable? A variable is a condition that can store some data, here we are using a variable to store the Ref ID that we will use through the process that we're about to create. <https://docs.workato.com/features/variables.html>
4. What 3 words
 - a. What is what3words – <https://what3words.com/about-us/>
 - b. What3words Maps - <https://what3words.com/daring.lion.race>
 - c. Developer What3Words – <https://developer.what3words.com/public-api>
5. Http call to convert address - <https://developer.what3words.com/public-api/docs#convert-to-coords>

How to access data in the PDF

These instructions will show you how to get the data out of *Risk Assessment No* attribute in the PDF

1. Set variable type to **string**
2. In default value you need to set the input to **Formula**
3. Set the data pill to **PDF Field Values**. This will give you access the fields
4. Type [**Risk Assessment No**] in the text input. This will tell the recipe to collect the data stored in that field.
5. Finally type **.to_s** at the end this forces the output from the pdf to be a string.

This method can be used to collect data from any attribute, just remember to change the attribute name inside the [“”].

Notes for Step 2

Copying data to BIM360

1. Using an IF statement allows you to collect the right type of form for this section of the recipe. Try to use data pills to drive these statements
2. Error Handling allows a user to run a second recipe if an error occurs in the first part.
<https://docs.workato.com/recipes/best-practices-error-handling.html>
3. Using a lookup table, we can force the recipe to run two different sections depending if the error occurs or not. Find out more about Lookup tables here -
<https://docs.workato.com/features/lookup-tables.html#setting-up-your-lookup-tables>
4. Attaching a document to an Issue uses a custom connector. Here is the forge documentation that has the sample calls and responses in -
<https://forge.autodesk.com/en/docs/bim360/v1/reference/http/field-issues-attachments-POST/>
5. Google maps example, remember to change the input to formula -
"https://www.google.com/maps/search/?api=1&query="+**[replace with LAT]**.to_s+","
[replace with LNG].to_s+"&z=25"

Notes for Step 3

Updating Data in BIM360

This stage uses a lot of the function from the previous steps. additional link that you will find useful are:

1. When uploading a new version of a file -
https://forge.autodesk.com/en/docs/data/v2/reference/http/projects-project_id-versions-POST/
2. Attach document to the issue -
<https://forge.autodesk.com/en/docs/bim360/v1/reference/http/field-issues-attachments-POST/>

Notes for Step 4

Pulling data from Assemble

1. You will need to create a connection to assemble, the same process as you did at the start for BIM360 and PlanGrid
2. You will use the list function to help iterate through each model in the assemble project. More info on lists here - <https://docs.workato.com/features/collection.html#create-list-in-collection-action>

3. You will create a variable to store the relevant data in the geometry in, this will enable you to use it later in the video - <https://docs.workato.com/features/variables.html>
- 4.