

CES322634

## **BIM 360: No Model, No Problem**

Adam Schilling  
ARCADIS

### **Learning Objectives**

- Learn how to utilize the benefits of BIM 360 without the need for a model
- Learn how to set up BIM 360 projects to maximize efficiency
- Learn how to utilize BIM 360 built-in tools for work-request submissions and tracking
- Learn how Forge can be used to automate repetitive tasks

### **Description**

BIM 360 software is not just for models! You can use the built-in tools within BIM 360 to manage many different tasks in a collaborative environment outside of traditional BIM industries. In this class, we will explore collaborative issues that hamper productivity and limit the ability to transition to a BIM environment. We'll look at how to implement a Level 1 BIM system to enhance collaboration, efficiency and consistency while also utilizing Forge to automate time-consuming tasks.

### **Speaker**

I have 16 years of experience and have been with ARCADIS for the past 14 years. I am currently a Staff Designer and lead a team of Designers in the Environmental Division of ARCADIS. I have earned a B.S. in Environmental Studies from the State University of New York School of Environmental Science and Forestry and an M.S. from Syracuse University in Environmental Engineering. I pride myself on being innovative and thinking outside of the box, finding alternative ways to realize gains in productivity and efficiency. I am always looking for new ways to boost productivity to further the goal of attaining 100% BIM on all projects.

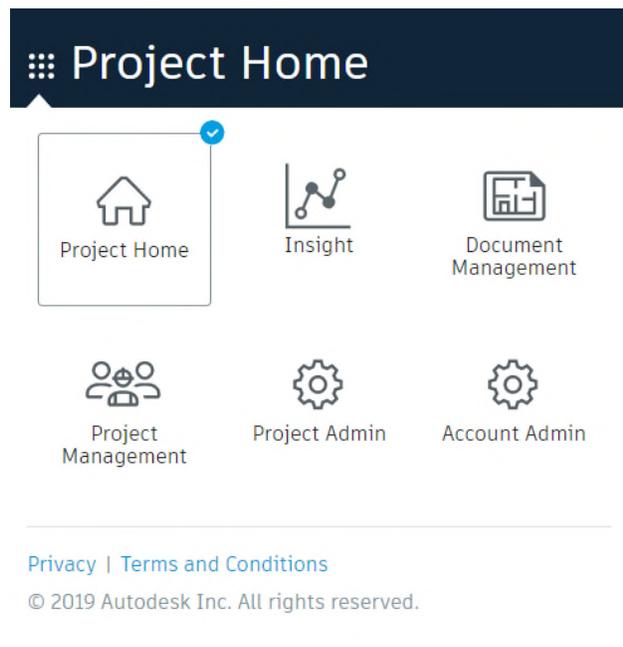
## Key Information

**Account Hub** – the account hub is where everything is controlled for all services. Only Account Administrators have access to the Hub

This is where:

- Projects are created
- Users are granted access to projects
- Roles are defined
- Additional apps are added

Project navigation starts with the grid in the upper left-hand corner. All activated services the current user has access to will show here



## **Learn how Revit models are not necessary to utilize the benefits of BIM 360**

Fancy models are the first thing people think of when they hear the term BIM. While BIM 360 enables the ability to collaboratively utilize models, there are many tools built into the platform that enable users whom do not utilize models as deliverables to benefit. The following will demonstrate how this can be accomplished.

### **Set up BIM 360 projects to maximize efficiency**

All projects are different, and the scope needs to be fully understood for maximum efficiency. Some basic questions to think of before beginning:

- Is this an internal project or will outside entities be contributing?
- What are the goals of the project? Storage, collaboration, modelling, work tracking?
- What type of deliverables will be produced?
- What is the size of the team?

#### **Set up**

##### **1. Create A Template**

The first step is to set up a template project, which will serve as the basis of all future projects. You may set up as many templates as necessary.

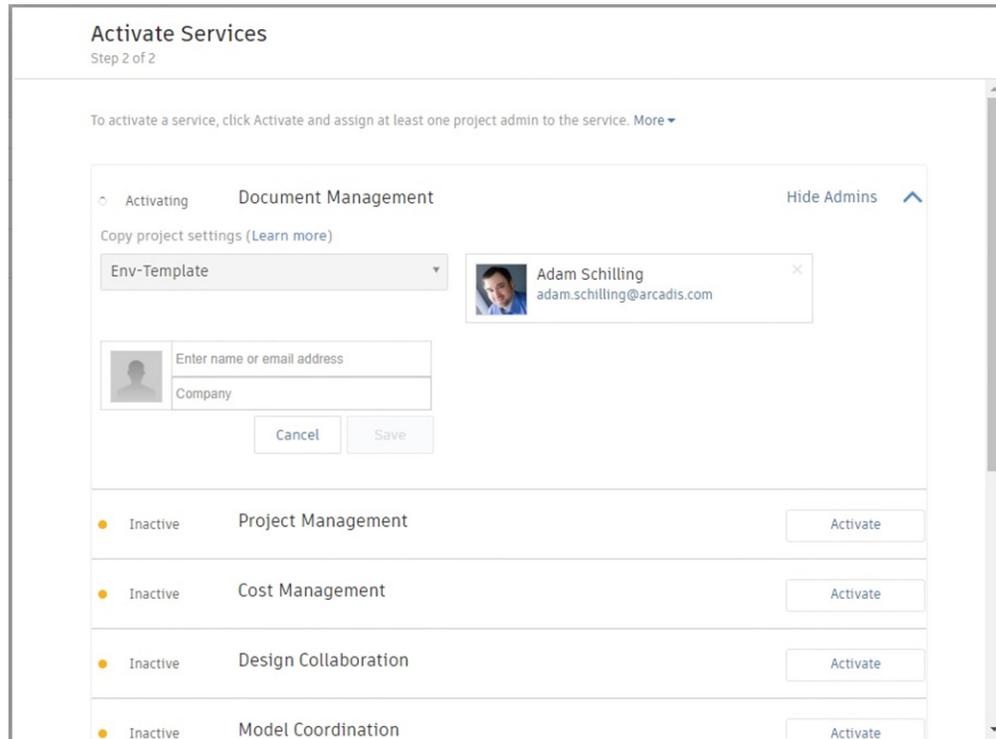
- Name the project clearly as the template
- Create the project
- Create a standard file structure to accommodate all potential types of deliverables
- Determine all potential roles that may be used and assign permissions to each role to specify access level

##### **2. Account Management**

Using your standard naming convention, create a project in your Account hub (i.e. Arcadis-123456789-AU2019-Example-Las Vegas NV [company name-project number-project name-project location]) and add all relevant information in the project setup page.

##### **3. Activate Services**

Document Management must be activated for all projects. For any service desired (including Document Management) you must select the service and add an administrator.



#### 4. Add Users

After the project is created, you must still add each user to the project for access to be granted.

- Users are added to the project by a Project Administrator
- Users can be added:
  - Via username if they are already part of the account hub
  - Via email address
- Any user with an email address can be added to a project

#### 5. Permissions

The Permissions pane can be accessed by right-clicking the folder for which you would like to define permissions and selecting “Permissions”. Any permission applied will also apply to all subfolders.

- All project administrators will be shown in the permissions panel ‘by User’
- Apply permissions ‘by Role’ to ensure the ability to use the project as template
- If you have used a template to create the project, all permissions (assigned by role) will be carried over

**Permissions - Project Files** ✕

Users: 1 Companies: 0 Roles: 4

Add

Name	Permission Level ▾	Type ▾	
Adam Schilling	<a href="#">Folder Control</a>	User	Project Ad...
▶ BIM Manager	<a href="#">Folder Control</a>	Role	<a href="#">Remove</a>
▶ Designer	<a href="#">View/Download+</a>	Role	<a href="#">Remove</a>
▶ Engineer	<a href="#">View/Download+</a>	Role	<a href="#">Remove</a>
▶ Subcontractor	<a href="#">View/Download</a>	Role	<a href="#">Remove</a>

## Document Sets

Document Sets provides the ability to quickly get to relevant data. Project Administrators and users with full control access can create and manage Document Sets

To create/manage Documents Sets:

1. Select the Sets Tab in the file tree

**View by**

Folders
Sets

2. From this location, new Document Sets can be created, and existing sets can be edited.

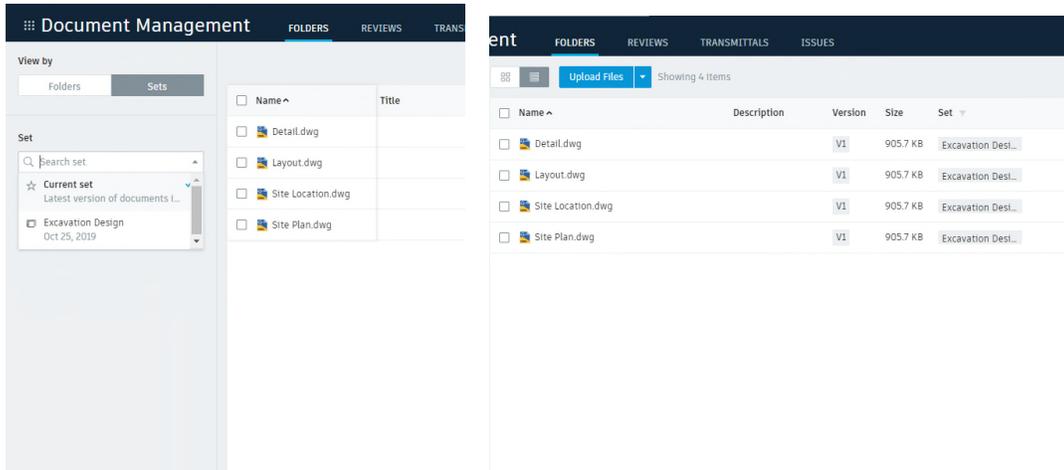
Manage sets ✕

Create new set

1 set

Set name	Issuance date ▾
Excavation Design	<span>📅</span> Oct 25, 2019

- After Sets have been created, they can be seen in the folder view as an attribute or filtered by set in the Sets tab.



## Transmittals

To easily send files, Document Management Transmittals is the perfect solution.

- Select Files
- Select *Create Transmittal*

✕
Create transmittal

**Title \***

**Recipients \***

**Documents for transmittal \*** Add documents

Project Files/2019/01-In... Total: 4 docum...

- Detail.dwg  
V1

✕
- Layout.dwg  
V1

✕
- Site Location.dwg  
V1

✕
- Site Plan.dwg  
V1

✕

**Message**

Enter a message to include in the transmittal

Cancel Create

- Name Transmittal file

4. Specify Recipients
5. Create Transmittal

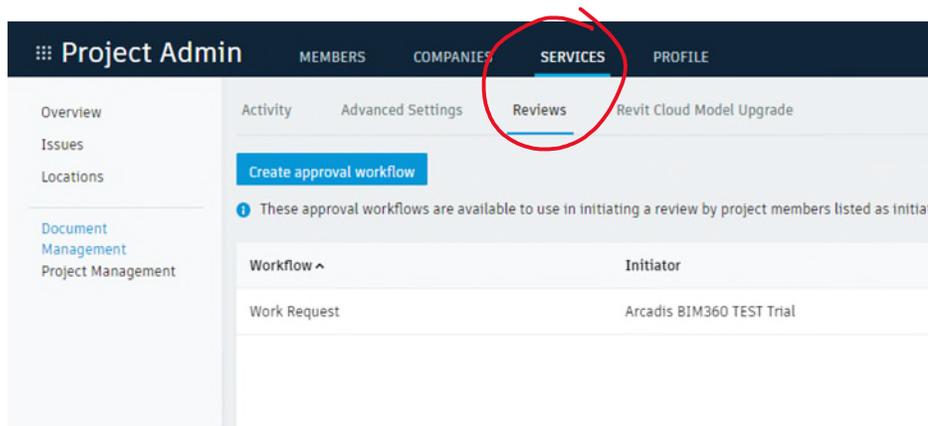
An email will be sent to all designated recipients alerting them to the transmittal. All transmittals will be viewable and downloadable as a zip file under the Transmittals tab.

## Learn how to utilize BIM 360 built-in tools for work-request submissions and tracking

There are multiple ways within the BIM 360 platform to submit tasks to be completed and to track work progression. We will cover the **Reviews** function within *Document Management* and **Submittals** within *Project Management*.

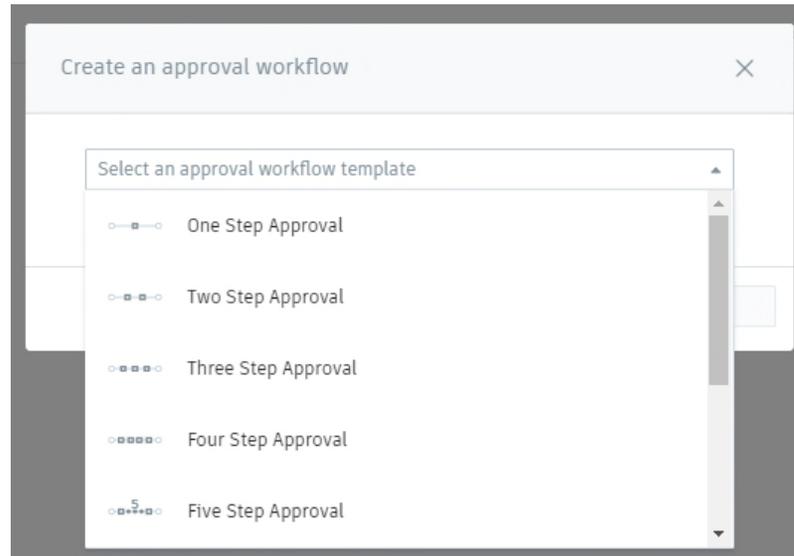
### Reviews (Document Management)

To use Document Management Reviews, you must first set up an approval workflow. This can be done by a Project Administrator.



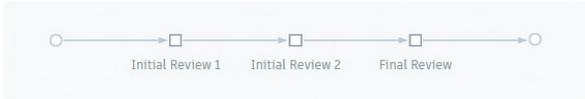
There are multiple templates available to set up your approval workflow

- For a single user per step, there are templates ranging from one to six steps.
- For a group workflow, there are templates for two to four steps
  - A group workflow includes a single step in the workflow which routes the work through a group of users instead of a single user.



In this example we will use a three-step approval workflow.

Steps



**Initiator \***

Step name	Reviewer Type *	Time allowed *
Initial Review 1 ✓	Single Reviewer	3 ✓ Calendar Day(s)
<b>Reviewer 1 *</b> <input type="text" value="Select a user, role, or company"/>		
Initial Review 2 ✓	Single Reviewer	3 ✓ Calendar Day(s)
<b>Reviewer 2 *</b> <input type="text" value="Select a user, role, or company"/>		
Final Review ✓	Approver *	3 ✓ Calendar Day(s)
<input type="text" value="Select a user, role, or company"/>		

---

Document approval status

Value *	Approval status label *	Icon *
Approved	Approved	
Rejected	Rejected	
Approved	Approved w/ comments	

[Add status](#)

Action upon completion Update documents with approval status when review is complete.

Also copy approved documents to: *Select a folder\**

Allow initiator to change copy location

Copy to folder when: *Any document in the review is approved*

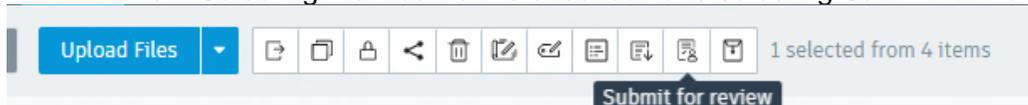
---

**Custom note**  
 You may add a custom note or disclaimer that will be visible to all reviewers on the Review detail page.

- For each step in the approval workflow, a user, company or role must be selected. This allows full control over access permissions and the ability to start a workflow.
- The step names can be edited to better meet individual standards
- Time allotted is editable
- Upon the final approval of the workflow, there is an option to copy the files included in the workflow to a new location on BIM 360 Docs.

**Once approval workflow set up is completed, reviews are easily accessed within any folder in Document Management.**

1. Select the file or files you would like to submit for work to be completed
2. Begin the Review process by:
  - a. Selecting the files via the checkbox and selecting *Submit for Review*



OR

- b. Select the ellipsis when hovering over the file name



3. Select the approval workflow to be used and add any relevant information, in the Notes section at the bottom. You can add any additional documents (must be housed in BIM 360) via the add Documents link.

Submit for review
✕

**Approval workflow \***

Work Request

Overview ^



**Description**  
Use to request work and QA/QC after completion.

**Action upon completion**  
Copy approved documents to folder when any document in the review is approved

Project Files/2019/04-Project Design Files

Note: A review may be created using copies of documents not in their original folder location, which are then copied to another location on approval. Project members may not be able to download copied documents if they don't have correct permissions for the original folder location.

---

**Review name \***

Work Request

**Documents for review \*** [Add documents](#)

Total: 1 document

Project Files/2019/01-in... 1 document ^

Detail.dwg  
V1

✕

---

**Notes** v

Cancel Submit

4. Upon Submitting the request, you will have the option to notify the reviewer and any other project users. You may also add a message to the notification
  - o These emails will be sent to the relevant parties at each step of the approval workflow.

Once you Initiate a review, the review is locked for all other users. The reviewer options are:

- Submit a review -> Task moves to the next phase
- Release task -> Allows another user to review the task
- Void entry -> Voids the entire task and ends the process

The final reviewer will have the option to approve, reject or approve with comments the task. This step closes the review process.

Reviews > Review detail

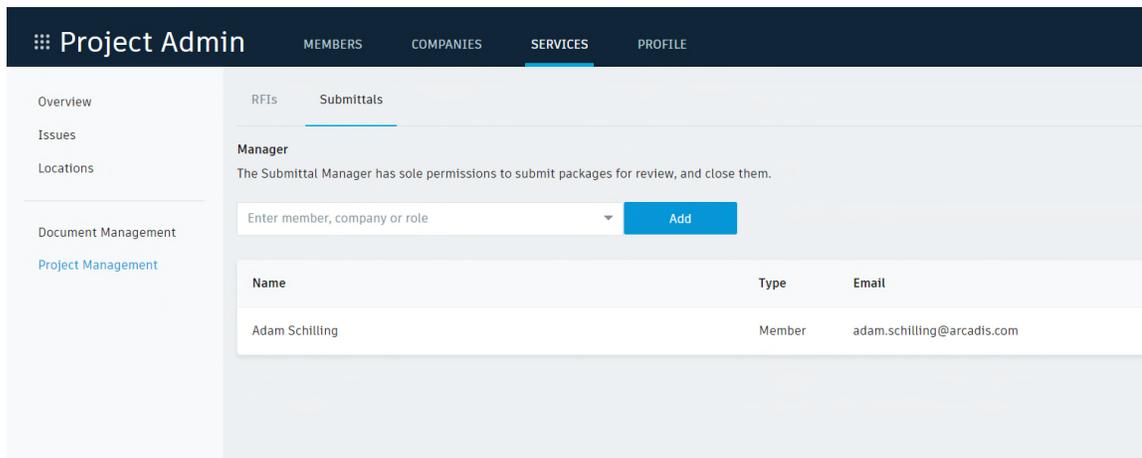
OPEN
#2 - Final Review
Time left: 3 days

Submit review
Release task
Void entire review
Export Report

Name ^	Description	Version	Markup	Comments	Approval status <small>Required field*</small>
<input type="checkbox"/> Detail.dwg	--	V1	0	1 Comment	<div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 5px;">Select...</div> <div style="display: flex; flex-direction: column; gap: 5px;"> <div style="display: flex; align-items: center; gap: 5px;"> <span style="color: green;">✔</span> Approved           </div> <div style="display: flex; align-items: center; gap: 5px;"> <span style="color: red;">✘</span> Rejected           </div> <div style="display: flex; align-items: center; gap: 5px;"> <span style="color: blue;">✔</span> Approved w/ comments           </div> </div>

## Submittals (Project Management)

Project Management Submittals requires setup from a Project Administrator. Once a Submittal Manager is identified (this can be an individual user, a company or a role), *Submittals* can be used.

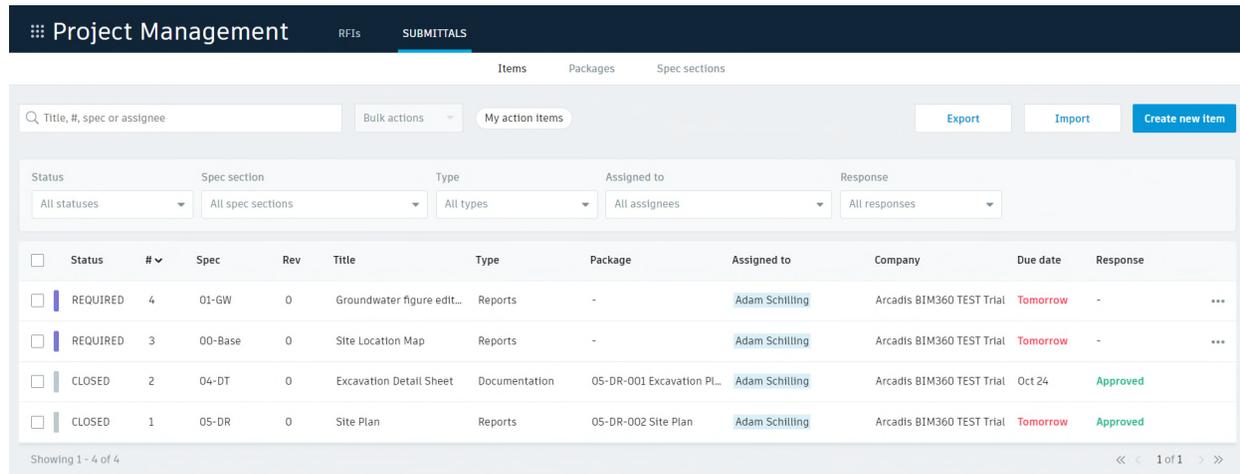


The screenshot shows the 'Project Admin' interface with the 'Submittals' tab selected. It displays the 'Manager' section, which includes a text input field for adding members, a blue 'Add' button, and a table listing the current manager.

Name	Type	Email
Adam Schilling	Member	adam.schilling@arcadis.com

A *Submittal* has three parts: Spec Sections, Items and Packages.

- Spec Sections – Item classification
- Items



The screenshot shows the 'Project Management' interface with the 'SUBMITTALS' tab selected. It displays a list of submittals with various filters and a table of items.

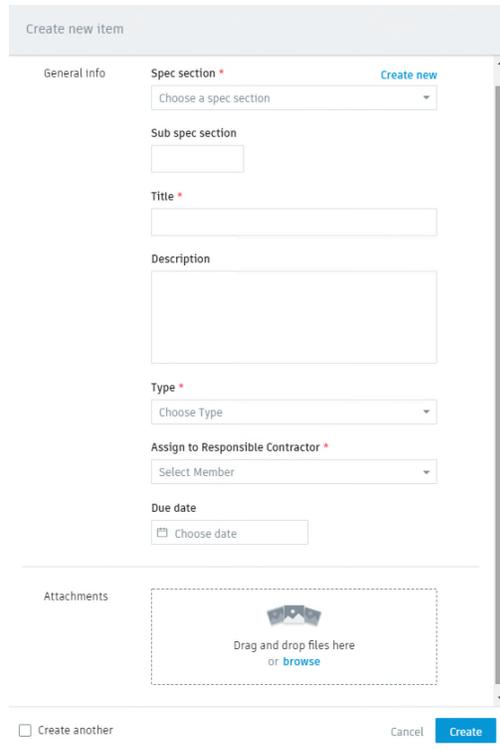
Status	Spec section	Type	Assigned to	Response
All statuses	All spec sections	All types	All assignees	All responses

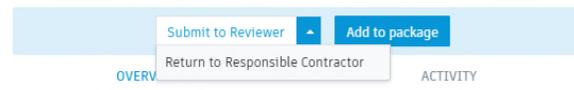
Status	#	Spec	Rev	Title	Type	Package	Assigned to	Company	Due date	Response
REQUIRED	4	01-GW	0	Groundwater figure edit...	Reports	-	Adam Schilling	Arcadis BIM360 TEST Trial	Tomorrow	-
REQUIRED	3	00-Base	0	Site Location Map	Reports	-	Adam Schilling	Arcadis BIM360 TEST Trial	Tomorrow	-
CLOSED	2	04-DT	0	Excavation Detail Sheet	Documentation	05-DR-001 Excavation PL...	Adam Schilling	Arcadis BIM360 TEST Trial	Oct 24	Approved
CLOSED	1	05-DR	0	Site Plan	Reports	05-DR-002 Site Plan	Adam Schilling	Arcadis BIM360 TEST Trial	Tomorrow	Approved

Showing 1 - 4 of 4

- Create a new item

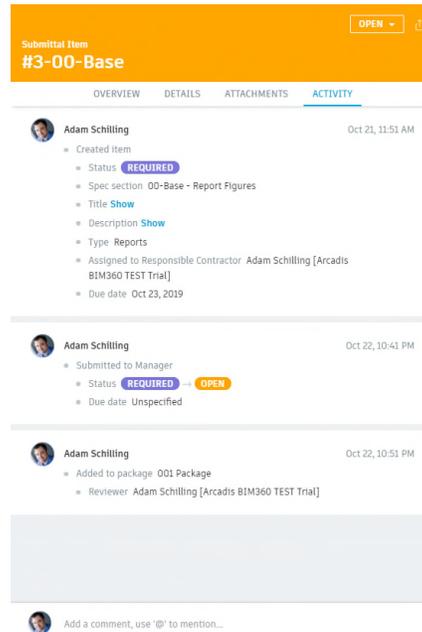


Unlike Document Management Reviews, *Submittals* do not have to follow a set path. After an item has been created and worked on, it is submitted to a manager. The manager has the option to add the item to a package via submit to reviewer or returning the item to the responsible contractor.



\*All items can be edited or returned to the responsible contractor even after it has been added to a package

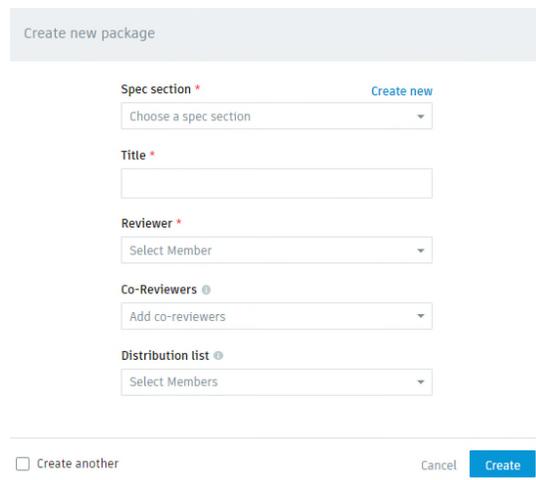
Submittal items track all activity on the item in the activities tab. The activity tab also allows for user tagging and comments.



Note: You can specify the package an item is added to via the package area. If one is not specified, the users will be prompted to select or create one.

- Packages - A collection of Items (can only be created by a submittal manager)

Packages can be created in the packages section or when an item has been submitted to a manager.



## Learn how Forge can be used to automate repetitive tasks

Utilizing Forge requires knowledge of code writing and is beyond the scope of this class, though understanding how it can be utilized to save time and frustration is important. I have included an example below on how we utilized Forge to ease the task of project creation.

*Creating a project in BIM 360 can be an arduous task. Depending on the size of the project team, it can take as few as 5 minutes up to 10 minutes to create a project. The most time-consuming task is adding users to the project. While this is not a large time investment if there are only a few projects to be creating, this can become incredibly time consuming if there are many projects to be created.*

*We have integrated Sharepoint and BIM 360 to simplify and automate this task. This workflow eliminates the need for an end-user to have Account Administrator privileges and the ability to create projects is granted or restricted by access to the Sharepoint site. The workflow includes an approval step to ensure all projects abide by standards.*

*Additional benefits for the usage of Forge in this implementation include:*

- *Project names are not user determined. The project names are created using a concatenation of fields that are required in the Sharepoint form to ensure all projects are created according to company standards*
- *Users are added via an excel spreadsheet to enable batch user addition, eliminating the need to individually add users to a project*
- *The uploaded excel spreadsheet is stored with the project name added to the file name on the Sharepoint site. Updating this spreadsheet with new users (i.e. project team changes, new employees, etc.) will add the new users to the project utilizing Forge.*