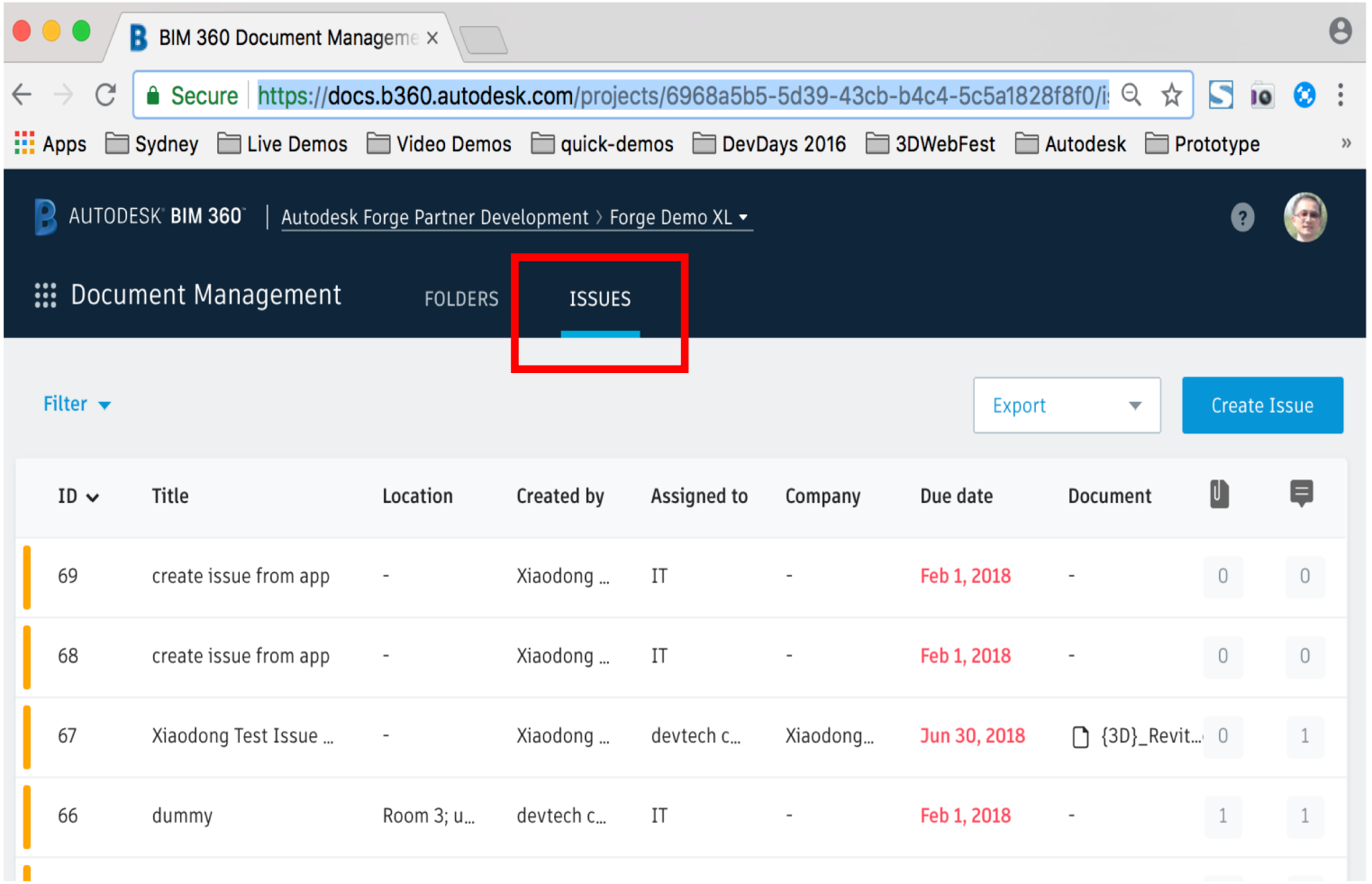
BIM 360 Issues API

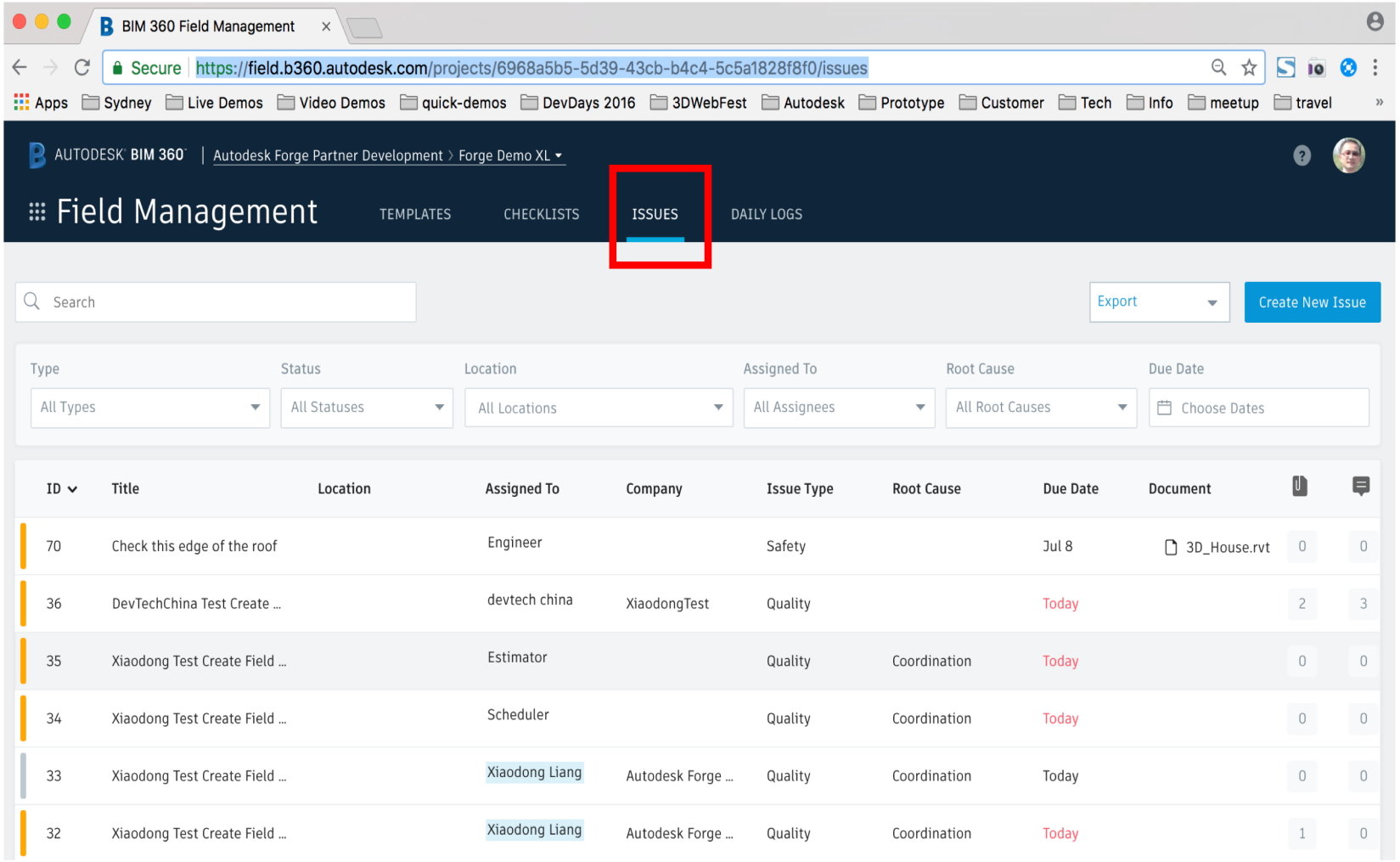
Overview

- Four Types of Issues
- Permissions
- Attachment
- Issue with API
- Current Scope and Limitations

Document Issue in Project Level

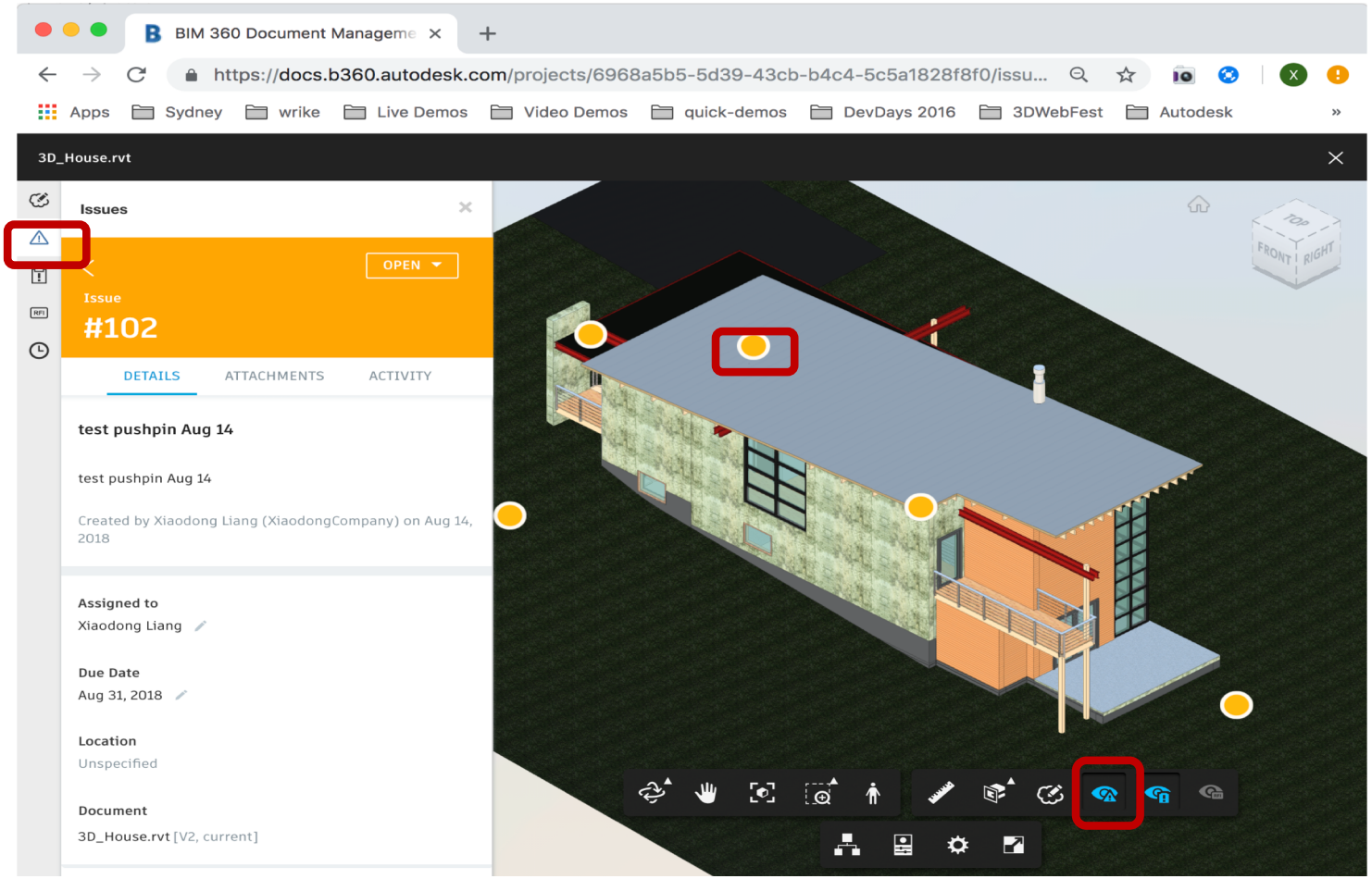


Field Issue in Project Level



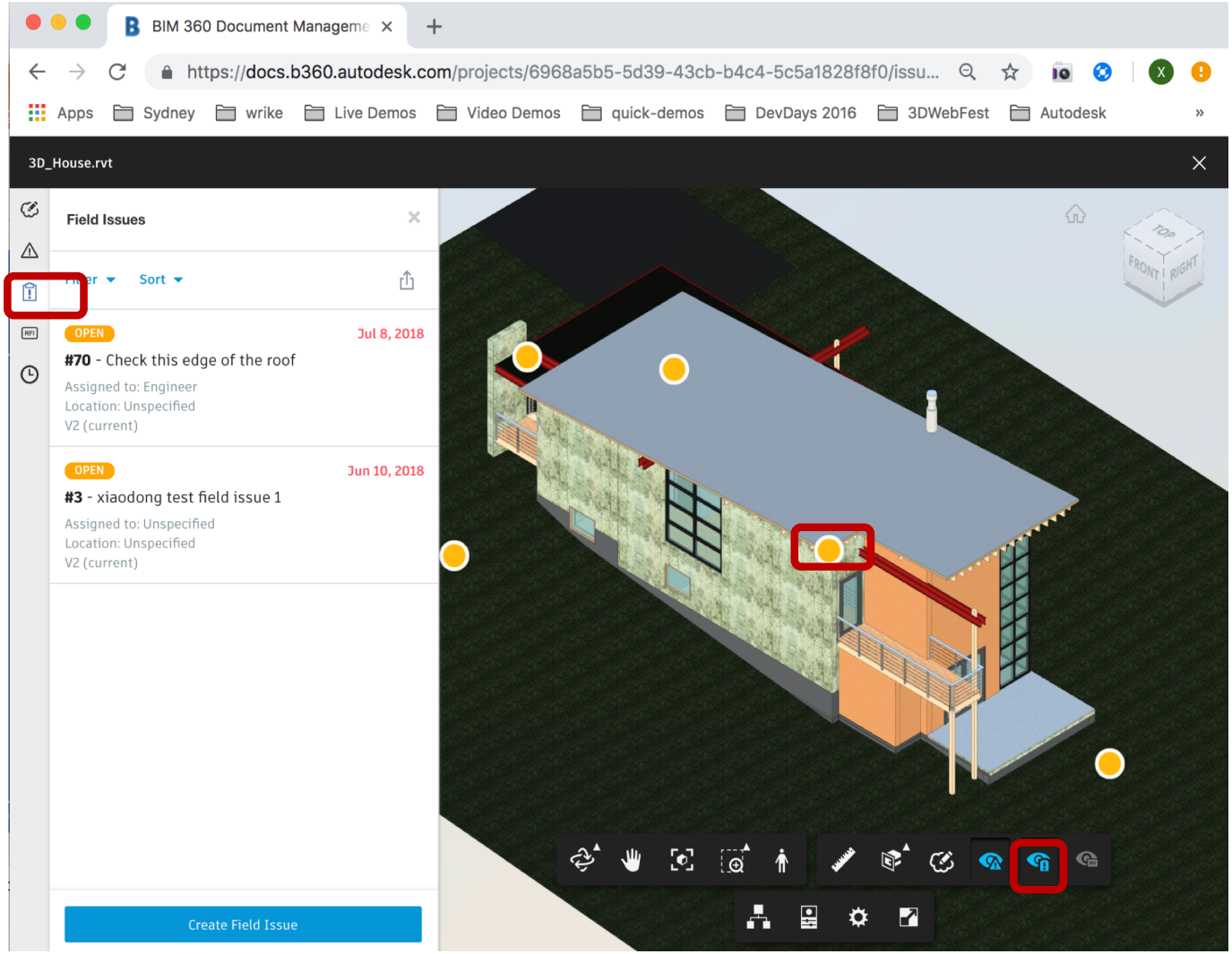
Document Issue in Document Level

- Button on panel
- Button in Forge Viewer
  - Toggle visibility of issue
- Pushpin is SVG



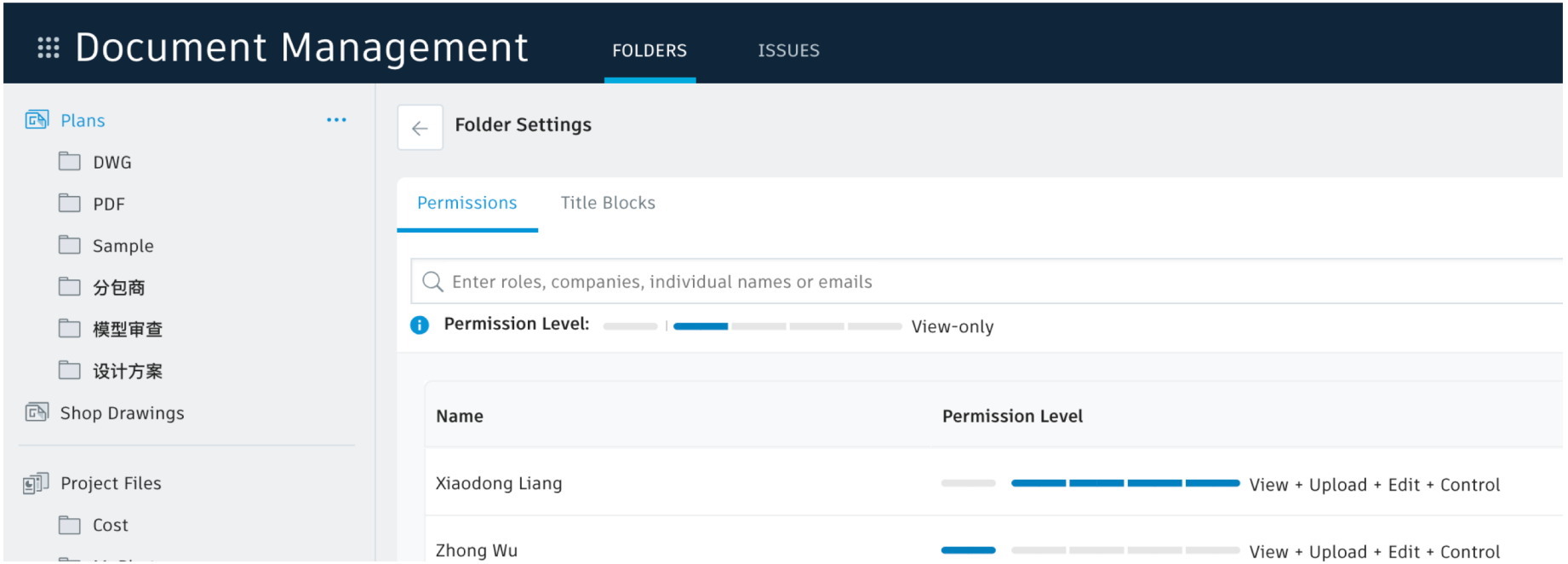
Field Issue in Document Level

- Button on panel
- Button in Forge Viewer
  - Toggle visibility of issue
- Pushpin is SVG



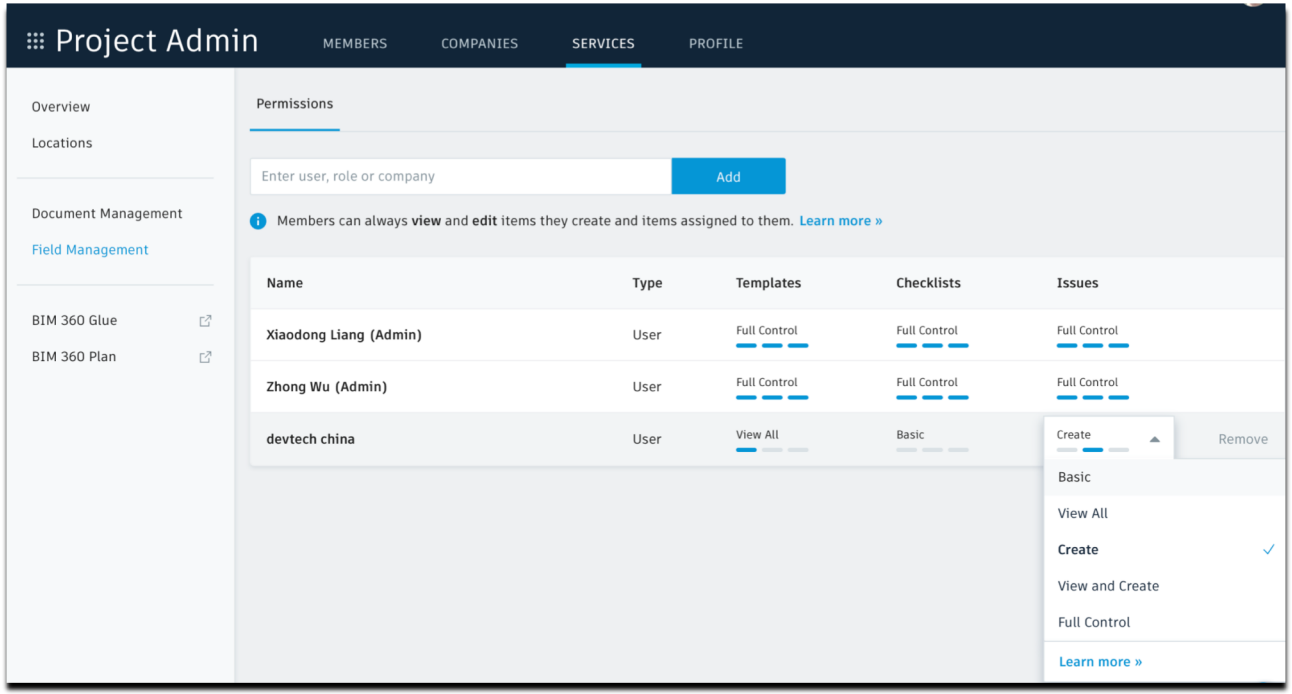
Permission for Document Issues

- By default, every member of the project can create a document issue in project level
- By default, if a member has permission to a folder, she can create a document issue on the specific document within this folder



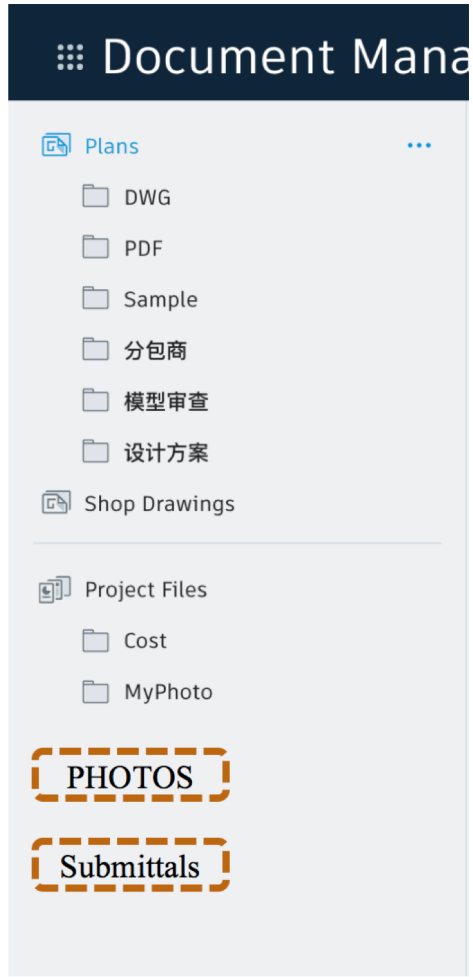
Permission for Field Issues

- Basic: can view issues the member has created or assigned to
- View All: can view all , but cannot create
- Create: can create new and view created and assigned to
- View and Create: can create new issues and view all issues
- No permission with a folder: cannot view the model the field issue was created from.



Attachment for Document Issue

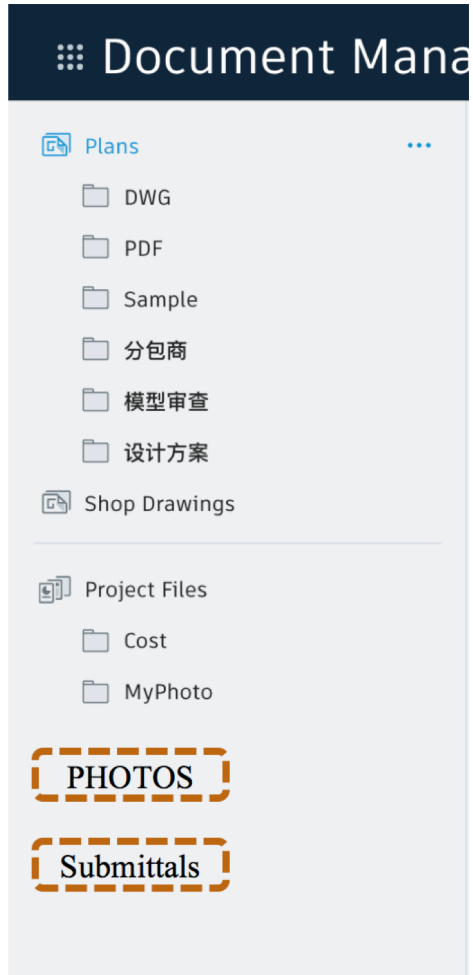
- Docs on PC can attach any kind of files (existing in the folders) to an issue
- Docs on PC can only upload and attach photo formats to an issue
- Docs on mobile can only attach photo format to an issue
- Where are the photos ?
  - A hidden folder named ' Photos’
  - Save level as Plans, Project Files, Shop Drawings



Attachment for Field Issue

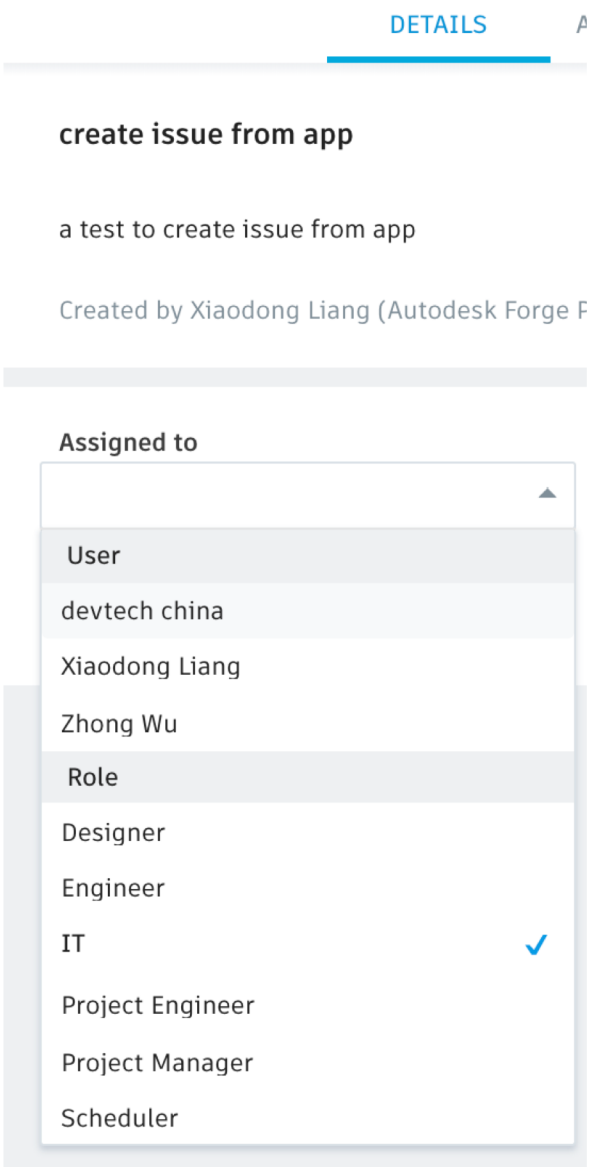
- Field on PC can attach any kind of files to issue, such as photo
- Field on mobile can only attach photo format to an issue

- Where are the photos ?
  - A hidden folder named ' Photos’
  - Save level as Plans, Project Files, Shop Drawings



Assignee

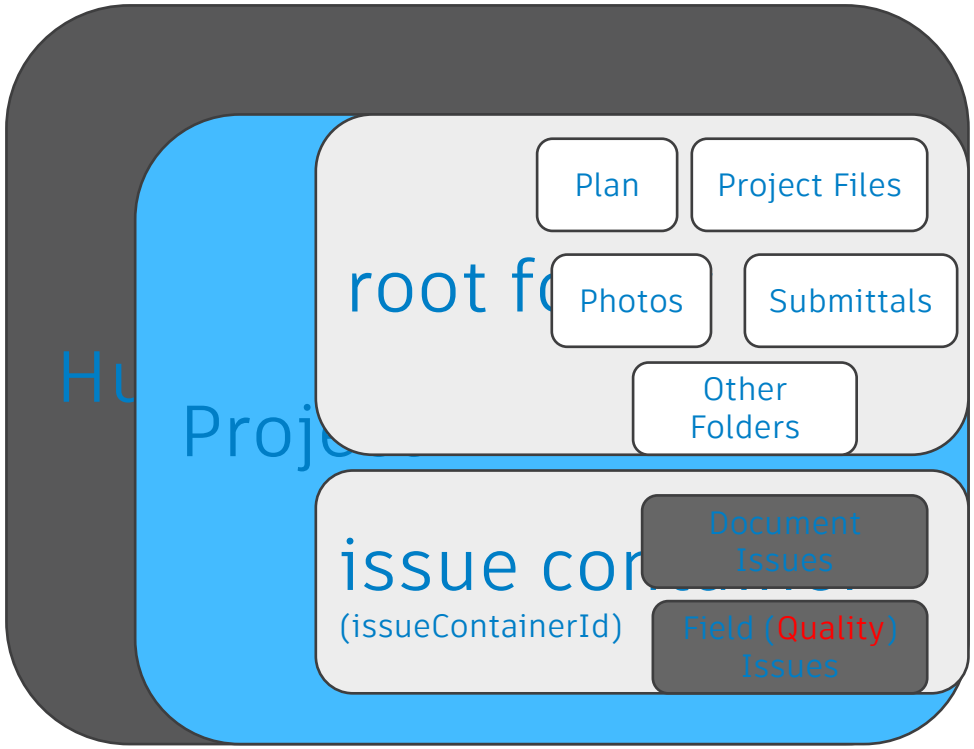
- Assign To
- User: valid member in this project
- Role:
  - Engineer, Designer, …
- IT:
  - Project Engineer, Project Manager , …



API – Get Issues

- GET: {{base_domain}}/issues/v1/containers/{{issue_container_id}}/issues?filter[status]=closed
- GET: {{base_domain}}/issues/v1/containers/{{issue_container_id}}/quality-issues

- Issue Container
  - Document Issue
  - Field Issue (in API: **Quality** Issue)
- API Help:
  - Document Issue, Field Issue



Create Issues – only in Project Level currently

- POST: {{base_domain}}/issues/v1/containers/{{issue_container_id}}/issues
- POST: {{base_domain}}/issues/v1/containers/{{issue_container_id}}/quality-issues

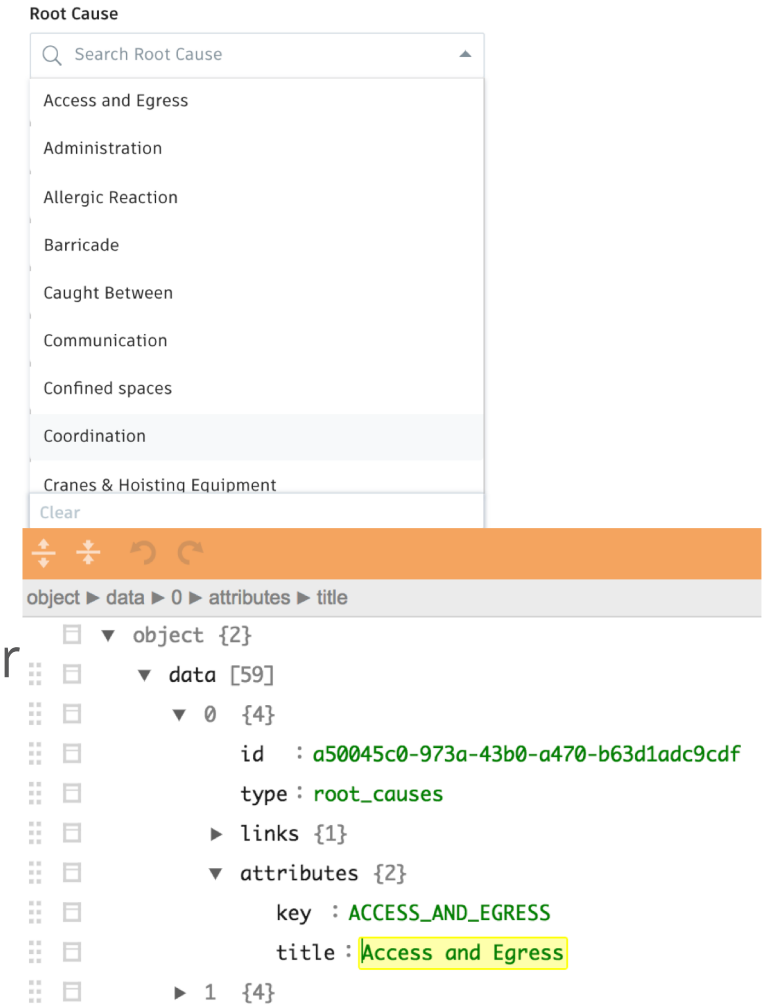
```
{"data":
{
"type": "issues",
"attributes": {
"title": ”Create My Document Issues",
"description": " Create My Document Issues",
"status": "open",
"target_urn": null,
"assigned_to": "7462015",
"assigned_to_type": "role",
"starting_version": 1,
"due_date": "2018-02-01T00:00:00.000Z",
"location_description": "Room 3; under the window",
"created_at": "2017-12-31T00:00:00Z"
}
}
}
```

```
{"data":
{
"type": ”quality-issues",
"attributes": {
"title": ”Create My Document Issues",
"description": " Create My Document Issues",
"status": "open",
"target_urn": null,
"assigned_to": "7462015",
"assigned_to_type": "role",
"starting_version": 1,
"due_date": "2018-02-01T00:00:00.000Z",
"location_description": "Room 3; under the window",
"created_at": "2017-12-31T00:00:00Z"
}
}
}
```

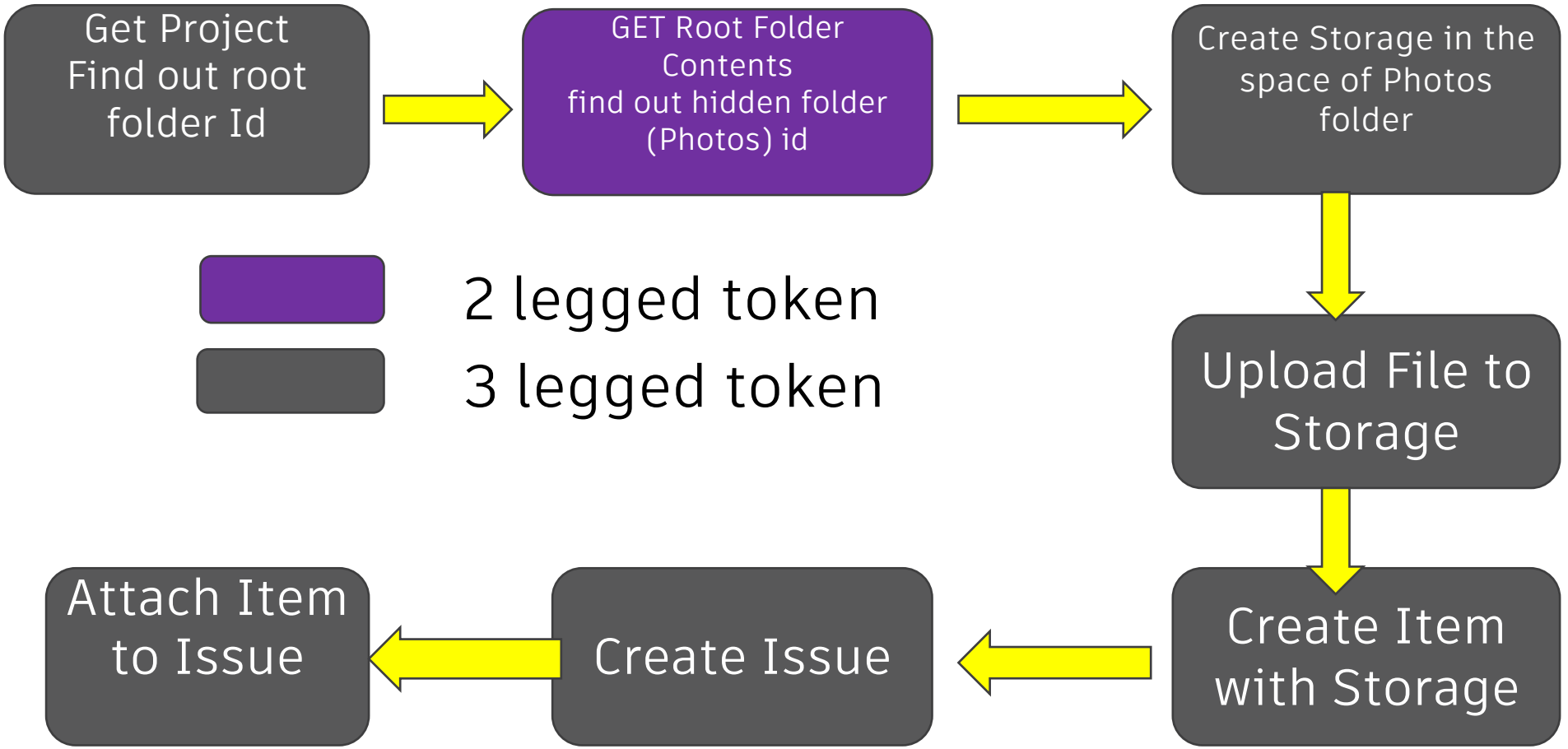
- API Help:
  - Document Issue, Field Issue

Issue Type And Root Cause of Field Issue

- Issue Type
  - Quality
  - Safety
  - PushList
  - Commitment
  - In API: enum index
  - GET supported field issue types to get the corr string
- Root Cause
  - GET Root-Cause-Types



Directly Attach Local Files (photo) to Issues

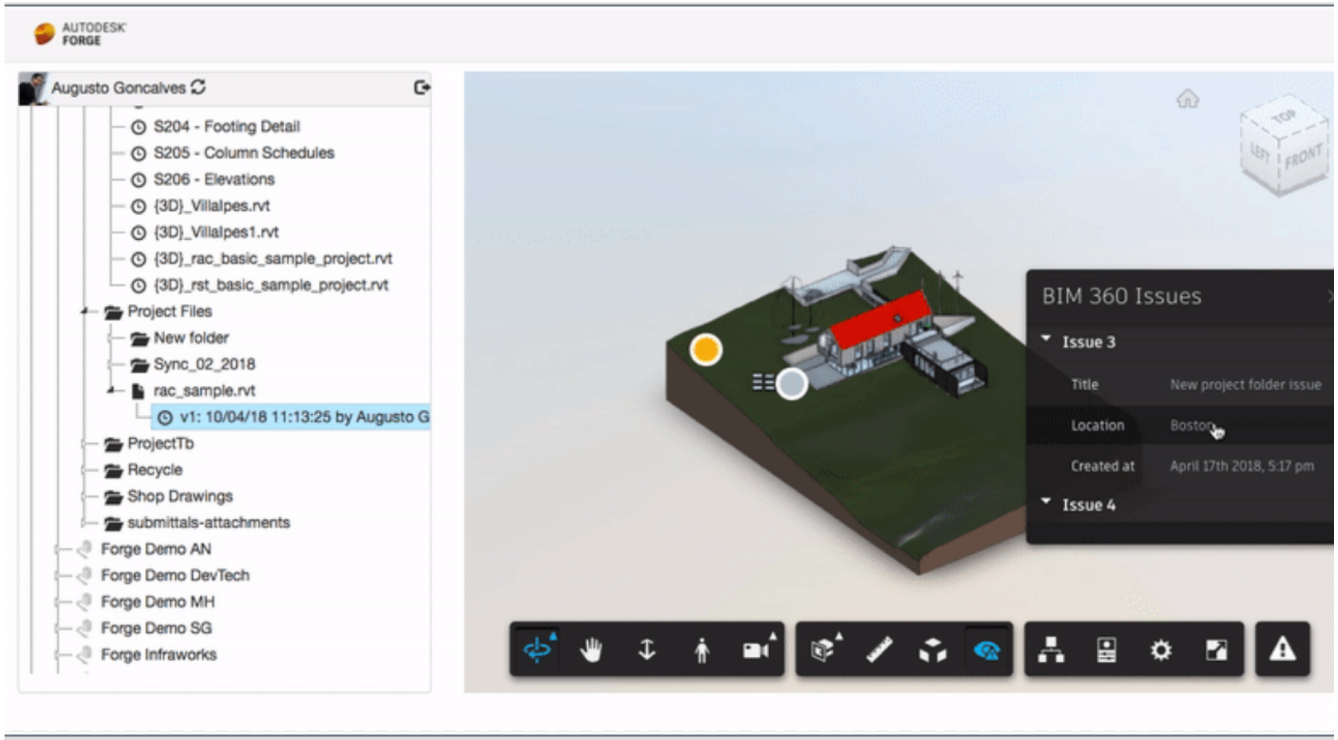


Pushpin Forge Viewer Extension

- Extension in Forge Viewer
- Same experience as BIM 360 UI
- Can toggle visibility of Issues
- Other data source (custom issue) could also use the skeleton

```
viewer3D.loadExtension('Autodesk.BIM360.Extension.PushPin')
      .then((pushPinExtension)=>{
            pushPinExtension.removeAllItems();
            pushPinExtension.showAll();
            for(var index in IssuesArrayFromBIM360API){
                  pushPinExtension.createItem({
                  id: IssuesArrayFromBIM360API[index].id,
                  label: IssuesArrayFromBIM360API[index].label,
                  status: IssuesArrayFromBIM360API[index].status,
                  position: IssuesArrayFromBIM360API[index].position,
                  type: IssuesArrayFromBIM360API[index].type,
                  objectId: IssuesArrayFromBIM360API[index].objectId,
                  viewerState: IssuesArrayFromBIM360API[index].viewerState
            });
      }
});
```

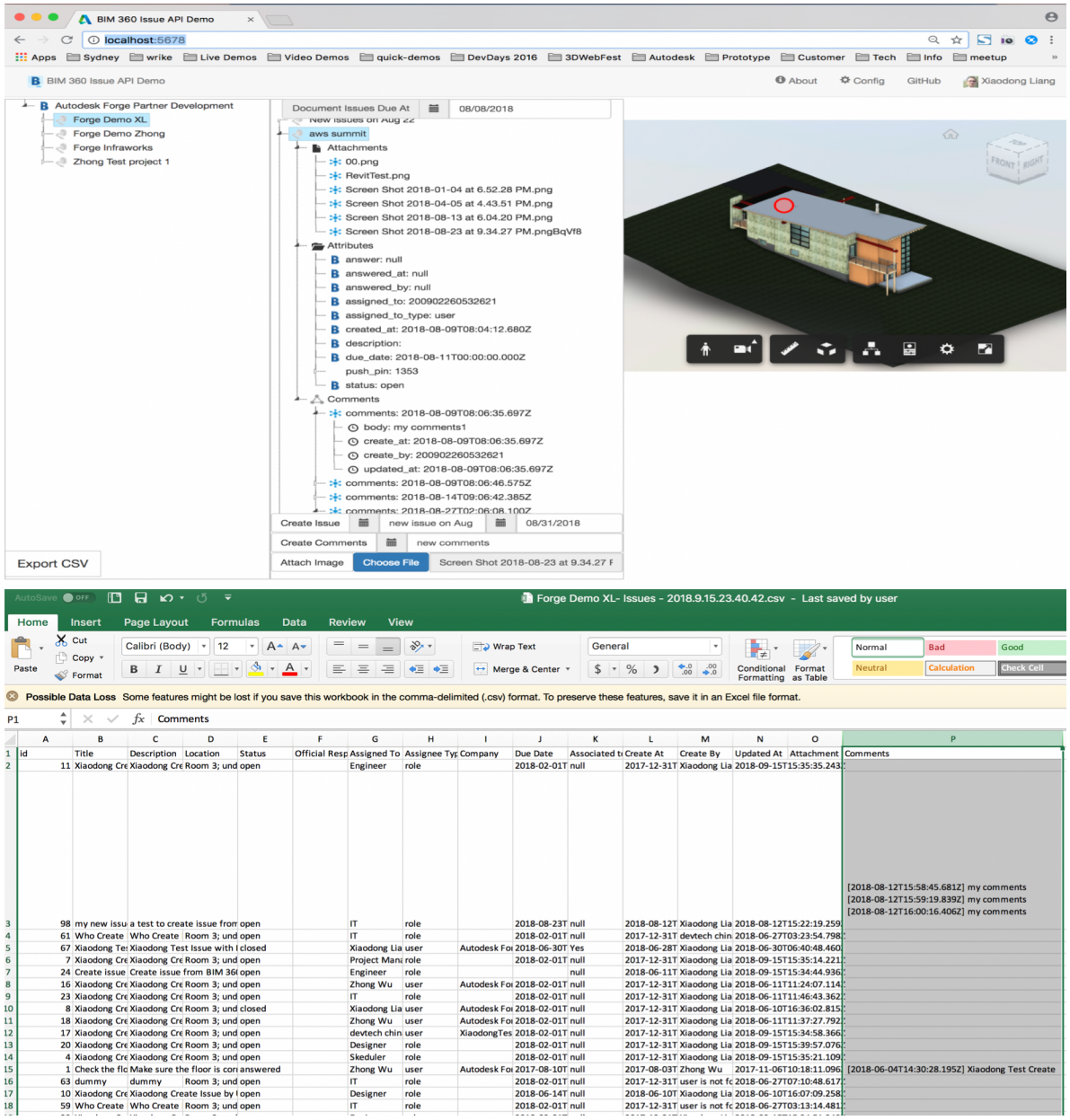
.NET Core Sample



- Get all document issues of one document
- Show up the pushpins by Pushpin Extension
- Live Demo: https://bim360issues.herokuapp.com/
- Blog: https://forge.autodesk.com/blog/introducing-bim-360-issues-api

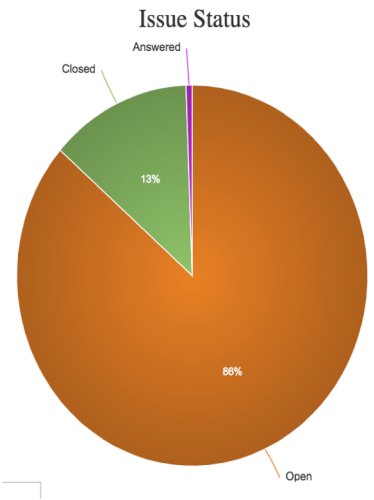
Node.js Sample

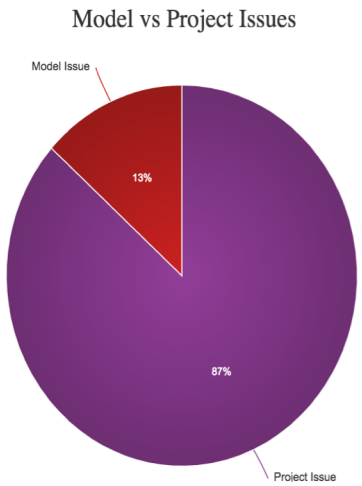
- Demos on how to manipulate issues
- Attach local photos to an issue
- Load specific issue and its model
- Export all issues to an CSV file (a little different to BIM 360 UI function, the CSV contains comments list)
- Live demo:
- https://bim360-issue-csv.herokuapp.com/
- Blog: https://forge.autodesk.com/blog/bim-360-issues-api-sample-nodejs

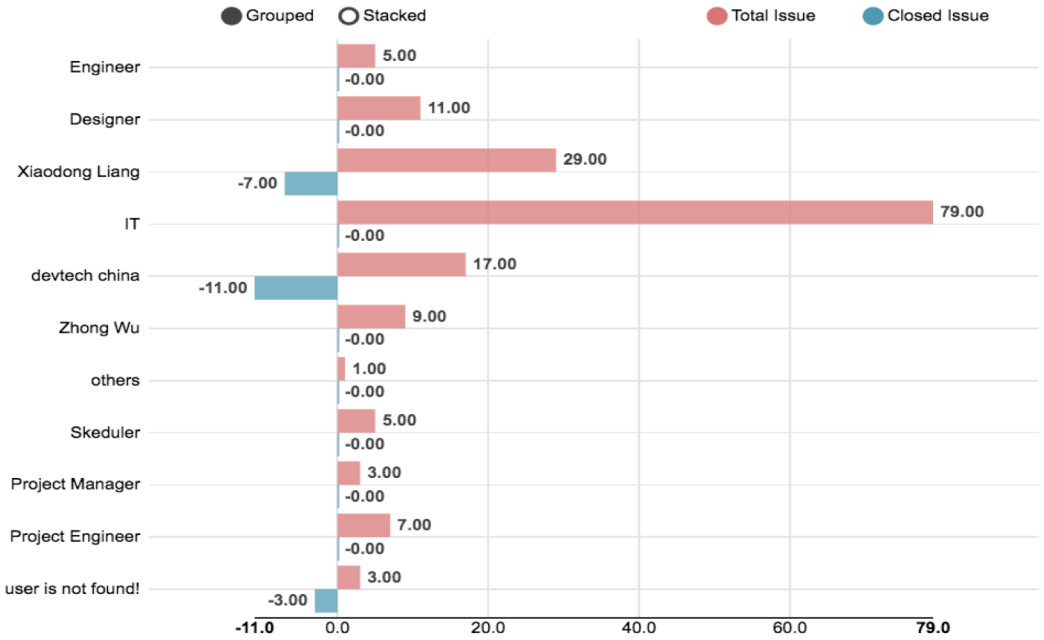


Node.js Sample

- Dashboards on stats of the issues
  - Coming soon







API Limitations

- Creating Issue in Document Level is not supported
- Getting project users (Assignee) has not been exposed
- No endpoints to manage permissions
- Attachment workflow by mixing 2&3 legged token is confusing

Autodesk and the Autodesk logo are registered trademarks or trademarks of Autodesk, Inc., and/or its subsidiaries and/or affiliates in the USA and/or other countries. All other brand names, product names, or trademarks belong to their respective holders. Autodesk reserves the right to alter product and services offerings, and specifications and pricing at any time without notice, and is not responsible for typographical or graphical errors that may appear in this document.

© 2017 Autodesk. All rights reserved.