

BIM 360 Project Setup Tool Usage Guide

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1 Overview

The command line tool supports the following functionality:

- Create Projects in Batch
- Copy Projects with Folders (including copy role permission)
- Activate Services by Adding User as Admin
- Add Users to Project as Admin or User

1.1 Pre-requisites

| PR# | Title | Description | Note |
|-----|---------------------------|--|---|
| 1 | Users have an Autodesk ID | All users that need to be assigned to projects must have an active and valid Autodesk ID registered with the same email. | Test the ID on the following website: manage.autodesk.com . If the user is able to log in, it's a valid ID. |
| 2 | Input file structure | The sample input files defined in the spreadsheet structure must be maintained. All required fields must be filled in order to let the tool work properly. | |

2 Workflow

| Nr. | Step | Tool | Result |
|-----|--|----------------------------|---|
| 0 | Prepare BIM360 account for custom integration | Manual | Custom Integration activated |
| 1. | Add users to BIM 360 HQ | Manual | All users are in BIM360 HQ |
| 2. | Each user to accept invitation | Manual | All users have a working Autodesk ID |
| 3. | Prepare CSV files with project and user information | Manual | Valid Input file |
| 4. | Create the project in BIM 360 | BimProjectSetup.exe | Projects are created and set to inactive |
| 5. | Assign Services | BimProjectSetup.exe | Services are assigned to the project. Admins related to the services are assigned. |
| 6. | Add users to BIM 360 projects and assign industry roles | BimProjectSetup.exe | Users are added to the projects |

3 Setup

Before running the command line tools you need to get a **client ID** and **secret**.

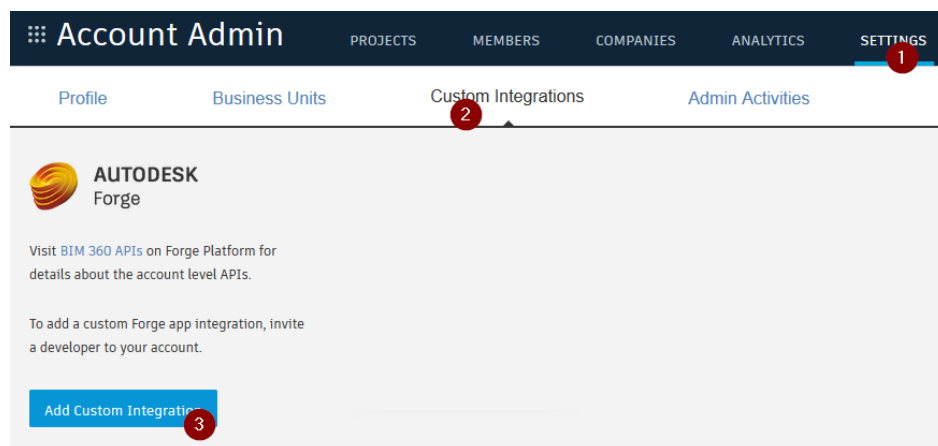
The client ID then needs to be registered with the BIM 360 account, so you can call the BIM 360 API.

A description on how to get a Forge client ID can be found here:

<https://developer.autodesk.com/en/docs/oauth/v2/tutorials/create-app/>

The following steps need to be performed to register the application for usage with a given BIM 360 Account.

1. Log in to your BIM 360 enterprise account as account admin and navigate to the Settings
2. Select the “Custom Integrations” tab
3. Click the “Add Integration” button.
4. Select access levels for your app (account administration and BIM 360 Docs).
5. Select “I’m the developer” option.
6. Enter your app’s client ID, name and description.
7. Hit the “Save” button.
8. Navigate to “Account Settings” tab and note your accountID for later usage with the command line tools



Add Custom Integration

Select Access

☒ BIM 360 Account Administration

Read and write access to Account Administration functionalities including project creation, service activation, business partner directory, and member directory.

☒ BIM 360 Docs

Read and write access to Document Management functionalities including access to folders, documents, and models.

Next

Add Custom Integration

BIM 360 info you need

When accessing BIM 360 APIs from your app, you need to specify the BIM 360 Account ID. Before proceeding, please make sure to save the BIM360 Account ID info for your records.

BIM 360 Account ID

☐ I have saved the Account ID information securely.

Fill in App Information

* Forge Client ID

Forge Client ID

App Logo

Select image to upload
JPEG, GIF, PNG, or BMP
file(400*200px, 4MB max)

* App Name

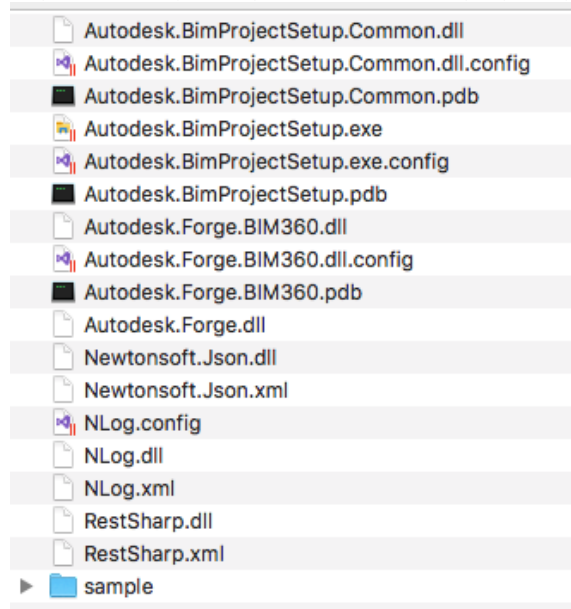
App Name

App Description

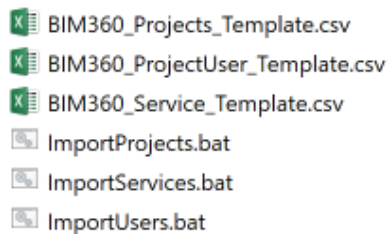
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3.1 Installation and configuration

The tool is provided as source code, download the code and open `BimProjectSetupTool.sln` solution on Visual Studio. The build process should download the required packages (**Autodesk.Forge** and dependencies). Compile and build the project, you should see the following files in the output folder:



The sample directory contains batch files and samples of csv files which you use as a base for setting up your own batch files.



4 Command Line Options

Most parameters are optional, however the ones without brackets are always required.

Autodesk.BimProjectSetup.exe -c -s -a [-p] [-x] [-u] [-b] [-t] [-z] [-e] [-d] [-r] [-h] [--CF] [--AR] [--EU]

| | | |
|------|---|--|
| -c | Forge client ID | |
| -s | Forge client secret | |
| -a | BIM 360 Account ID | |
| -p | Path to CSV input file for project creation | |
| -x | Path to CSV input file for service activation | |
| -u | Path to CSV input file with project user information | |
| -b | Base Url | (default= " https://developer.api.autodesk.com ") |
| -t | Separator character | (default = ';') |
| -z | Second Separator character | (default = ',') |
| -e | Encoding | (default = UTF-8) |
| -d | Date time format pattern | (default = yyyy-MM-dd) |
| -r | Trial run [true/false] | (default = false) |
| -h | BIM 360 Account admin Email address, required when Copy folders | |
| --CF | Copy folders (use only when you want to copy the folder structure from another project) | |
| --AR | Admin Industry Role | |
| --EU | Use the EU region account | |

Most arguments require a value after the argument. E.g.

-p "C:\myFolder\projects.csv"

Arguments and their values must be separated by a space and values must be enclosed in parenthesis like shown above.

The exception is the -r argument which value can be true or false without any parenthesis.

The arguments --CF and --EU don't require any value. They are used as indicators for copy folders (--CF) and whether the account is hosted on EU servers. (--EU). If not present the default is applied which is US servers and no folders copied.

Please note that **at least one path to an input file must be provided** with the -p, -x, or -u options.

You can provide multiple file paths within the same call, but we recommend to run step by step and create projects first, then activate required services and in a third step add users.

After successfully processing the CSV input file, a result file of the requested action will be written to the path where the input files reside with '_processed' as a suffix for the file name.

The results for each row of the input file are written to columns that are added at the end of the input file.

Please note that the '<inputfile_name>_processed.csv' file will not be created for the following tasks:

1. Copy folder
2. Add project users

Logging can be configured in the Nlog.config file. Further information can be found here: <https://github.com/nlog/NLog/wiki/Configuration-file>

4.1 Examples

When copying one of the command lines below make sure you remove all line end characters, so everything is in one line.

4.1.1 Create projects

This example command line creates projects from the file `.\sample\BIM360_Projects_Template.csv` in the BIM 360 Account.

```
Autodesk.BimProjectSetup.exe -c "your-client-id" -s "your-client-secret" -a "your-account-id"
-p ".\sample\BIM360_Projects_Template.csv" -t ";" -z ","
-e "UTF-8" -d "yyyy-MM-dd" -r false -h "admin.account@yourcompany.com"
```

4.1.2 Create projects and copy folders(including Role permission)

Same as above, but add the `--CF` argument at the end and make sure in the CSV file contains a template project name.

4.1.3 Activate Services

```
Autodesk.BimProjectSetup.exe -c "your-client-id" -s "your-client-secret" -a "your-account-id"
-x ".\sample\BIM360_Service_Template.csv" -t ";" -z ","
-e "UTF-8" -d "yyyy-MM-dd" -r false -h "admin.account@yourcompany.com"
```

4.1.4 Add Users

```
Autodesk.BimProjectSetup.exe -c "your-client-id" -s "your-client-secret" -a "your-account-id"
-u ".\sample\BIM360_ProjectUser_Template.csv" -t ";" -z ","
-e "UTF-8" -d "yyyy-MM-dd" -r false -h "admin.account@yourcompany.com"
```

4.2 CSV Preparation

All input data must be provided as CSV files and must follow the pre-defined structure.

- All **required fields** must have values. Options fields can be empty.
- **Semicolon** should be used as **separator** between fields.
If another separator character is used the `-t` command line option can be used to specify the separator char (e.g. `"|"`)
- Fields that allow multiple values should use **comma** as a **separator between values** in the same column.
If another character is used to separate multiple values of the same field the `-z` command line argument must be used to specify the character used.
- All **date fields** must use the same date format, e.g. `dd-MM-yyyy` and the format string provided in the **command line argument -d** of the project setup tool must match the format. Please note that the project setup utility doesn't recognize the windows regional settings. It only uses the provided format string to parse the values provided in the CSV files into date values.
See this link for more information about date format strings:
[https://msdn.microsoft.com/de-de/library/8kb3ddd4\(v=vs.110\).aspx](https://msdn.microsoft.com/de-de/library/8kb3ddd4(v=vs.110).aspx)
- The input files must use a suitable **encoding** that contains all characters used in the file. We recommend using **UTF-8** character set.

- Certain input fields only allow values from a parameter list - see the following link for further information: <https://developer.autodesk.com/en/docs/bim360/v1/overview/parameters/>
 - service_type
 - construction_type
 - contract_type
 - project_type
 - currency
 - timezone
 - trade
 - country
 - state_or_province

Special care must be taken when editing the file in Microsoft Excel:

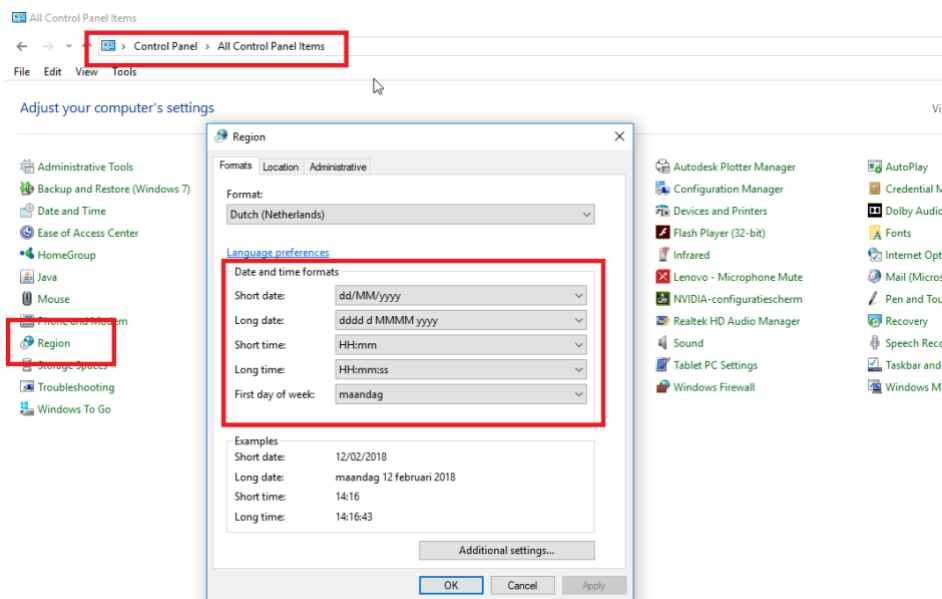
1: Make sure that Excel does not alter the date formatting to the System format on the machine which the file is edited. By default the dd/MM/yyyy is used in the CSV to format the date. When the Windows system uses a different time/date format, this sometimes causes Excel to save the date to the default Windows system format. This format can be changed in Configuration Panel | Regional Settings

2: **Make sure the .CSV file is formatted in UTF-8 code.**

3. Open the file in a text editor such as Notepad++ after it was saved to check

- Correct file encoding
- Proper and consistent date format is used
- Delimiters

Windows regional settings



Save file from Excel as UTF-8 encoded and semicolon delimited file.

| | |
|---------------|---------------------------------------|
| File name: | Book1.xlsx |
| Save as type: | Excel Workbook (*.xlsx) |
| Authors: | Excel Workbook (*.xlsx) |
| | Excel Macro-Enabled Workbook (*.xlsm) |
| | Excel Binary Workbook (*.xlsb) |
| | Excel 97-2003 Workbook (*.xls) |
| | CSV UTF-8 (Comma delimited) (*.csv) |
| | XML Spreadsheet 3.0 (*.xml) |

5 Constraints and restrictions

5.1.1 Value and Currency

Not mandated anymore in the BIM360 product but mandated in the Forge API and thus this Setup Tool

5.1.2 Language support

1. **BIM 360 product** supports
 - English,
 - German,
 - Dutch,
 - Chinese,
 - French
 - Swiss German
 - English and
 - German (en/de)
2. **API** supports only
 - English and
 - German (en/de)

5.1.3 Contract type

- BIM360 product has **Design-Build**
- API has **Design-Bid** instead – Design-Build is rejected by the API

5.1.4 Unique Business Units

Currently only unique business units are supported. The BIM 360 product allows to have the same business unit name multiple times. In this case the project setup tool finds one of them and uses it.

5.1.5 No Custom Roles

In BIM 360 custom roles can be added.

Currently the Forge API for adding users and thus this tool doesn't support custom roles.

5.1.6 Copy Folder

Only **Plan** and **Project File** folders are supported, will fail if you rename the 2 folder name.

6 Format of input files

6.1 Project Creation CSV

Fields in bold are required. See notes below.

- **name*** (invalid characters: \, /, ?, [,], >, *, :, <, ", |, ,,.)
- **start_date***
- **end_date***
- **project_type***
- **value***
- **currency***
- **folders_created_from**** (project name of the project from which folder structure is copied from only when you want to copy a projects folder structure)
- job_number
- address_line_1
- address_line_2
- city
- state_or_province
- postal_code
- country
- business_unit_id
- timezone
- language
- construction_type
- contract_type

***: required**

****:** **required** for '--CF' command. To create project by copying existing project with their folder structure(including Role permission), --CF command is used. To make this command work properly, the field 'folders_created_from' must filled with valid project name from existing projects in the account.

Details about the fields are specified in the API documentation of the PUT projects call:

<https://forge.autodesk.com/en/docs/bim360/v1/reference/http/projects-POST/>

Scroll down to the chapter "Body Structure" to read the specifics about the fields.

If no value is provided in the resulting CSV file you will see two semicolon (;;) characters after each other.

6.2 Service Activation CSV

All fields shown in the table below are required.

The company must match the users default company in BIM 360.

| project_name | service_type* | Email | Company |
|--------------|---------------|---|----------|
| Project1 | doc_manager | admin @company.com | Autodesk |
| Project1 | field | admin @company.com | Autodesk |

*: each row should contain only one service type

The service_type parameter accepts the following string values:

| Value | Description |
|-------------|-------------------------------|
| field | BIM 360 Field Classic Service |
| glue | BIM 360 Glue Classic Service |
| doc_manager | BIM 360 Docs Service |

See here for details: <https://forge.autodesk.com/en/docs/bim360/v1/overview/parameters/>

6.3 Project Users CSV

Sample of an input file structure for importing users.

| project_name | email | pm_access | docs_access | company_name | industry_roles |
|--------------|---|-----------|-------------|--------------|--------------------------------|
| Test | admin @company.com | admin | admin | Company | architect, project-coordinator |

Company name should match the users default company in the BIM 360 members directory. Make sure to provide a company name for each user. An empty field will delete the user's company according to the API documentation.

https://forge.autodesk.com/en/docs/bim360/v1/reference/http/projects-project_id-users-import-POST/