
powerAPS

coolOrange s.r.l

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POWERAPS

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GETTING STARTED

If you are new to **coolOrange powerJobs**, we recommend beginning with the following resources:

- [powerJobs Processor – Getting Started](#): Learn how to build PowerShell-based automations on the Job Processor.
- [powerJobs Client \(powerEvents\) – Getting Started](#): Learn how to customize Vault workstations.

No matter which of these sides you want to enhance, powerAPS makes it easy to consume [Autodesk Platform Services \(APS\)](#) within PowerShell.

All you need to get started is a valid **Autodesk ID** — no extra configuration is required.

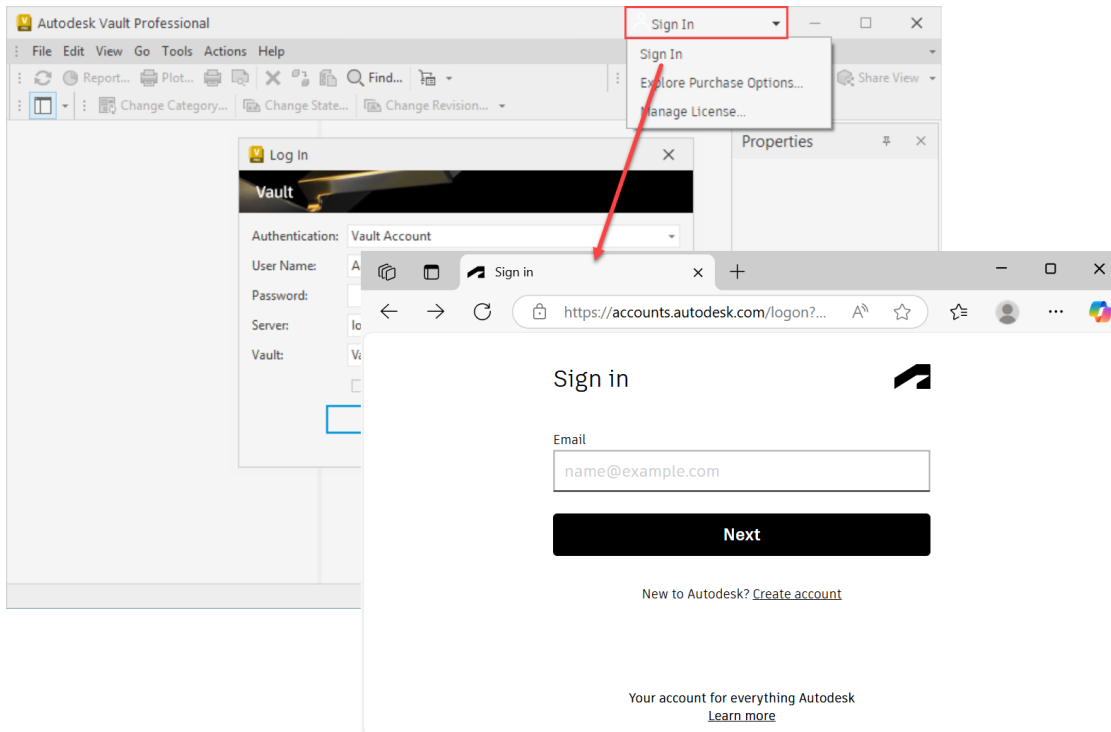
1.1 Sign in with your Autodesk ID

Make sure you're signed in with your Autodesk ID **on your Vault workstation**.

If your Autodesk Vault or Inventor licenses are already assigned through the [Autodesk account](#), you're ready to go — no further setup required.

Otherwise, sign-in once on the machine using your Autodesk ID and password via one of the following:

- **Vault Client or Inventor:** Click *Sign In* in the upper-right corner of the product window



- **Autodesk Access:** Click the avatar in the upper-right on the title bar.
[More info on Autodesk Access](#)

1.1.1 On the Job Processor

Jobs are typically executed using **impersonation**, meaning all Autodesk Platform Services (APS) requests are made on behalf of the user who submitted the job.

No Autodesk ID sign-in is needed on Job Processor machines.

Consent

Even with impersonation, each user's Autodesk ID must first give consent to access APS. This happens when APS is first connected via the Vault Client from the user's workstation.

After that, their jobs can run silently **for up to 15 days** without further interaction.

Alternatively, you could also sign in directly on the Job Processor using a dedicated system or admin account:

- Click [Sign In to Autodesk Account](#)

Warning: Here too, consent is required! It must be granted once by using the Vault Client on the Job Processor machine.

The consent is **automatically renewed** each time a job connects to APS.

However, if no jobs are executed for **15 consecutive days**, the consent **expires** and must be granted again.

1.2 Whitelisting the Client ID for ACC and BIM 360

If your Autodesk ID has Project Member Access to Fusion Team projects, powerAPS can access the authenticated user's data automatically.

However, special hubs like Autodesk Construction Cloud (ACC) and BIM 360 require special provisioning.

To get started quickly, you can **whitelist the Client ID of the coolOrange Vault Integration app** by following the steps below.

The same procedure also applies if you want to whitelist the Client ID of your own Autodesk app.

Autodesk Construction Cloud

1. Login to ACC as an admin.
2. Navigate to **Account Admin > Custom integrations**.
3. Click the **Add custom integration** button:

The screenshot shows the Autodesk Construction Cloud Account Admin interface. The left sidebar has a menu with 'Custom Integrations' highlighted. A red arrow points to this menu item. Another red arrow points to the '+ Add custom integration' button. The main content area displays a table of custom integrations with columns for Name, Email, Status, and Added on.

Name	Email	Status	Added on
0xbGQalb09f6rMyDH9yGTYdIXonIG - DevTech...	xiaodong.liang@autodesk.com	Inactive	12/15/2021
3D design	prashants.potadar@autodesk.com	Active	03/12/2024
3DdLZWY5nApSx5fwEfd0OG4IDYhwM9T JM TEST	joao.martins@autodesk.com	Active	08/02/2023
350B9G4WfKcHOqN3WkaMSDFRLZrxGE5a Zhong...	zhong.wu@autodesk.com	Active	03/08/2022
3xxa6fgk6hXRoAtcSau2p3rhCuGrvBBU - Zhong - ...	zhong.wu@autodesk.com	Active	07/28/2021
7605e7fr3j6V6vGCGHh98vcrJRkeze Delete me s...	zhong.wu@autodesk.com	Active	10/07/2021
8WJ3G13cFAwnXIZBVYhAoA39EBDSziY6 - Zhong - ...	zhong.wu@autodesk.com	Active	07/29/2021
ACC Admin API Sample (cultWCF2f9AubyLn8b5L...	zhong.wu@autodesk.com	Active	11/20/2022

4. In the *Autodesk Platform Services Client ID* field, enter `dmPrAYr1c0AYJnIFzAA9i1lEcJG5C1cJnUohC5PDCsnlXxhQH` :

Add custom integration ✕

Account ID

Account ID

The account ID is required when accessing APIs from your integration. Note the account ID before you continue. You can also reference the account ID later in the [account settings](#).

Autodesk Platform Services Client ID * ⓘ

dmPrAYr1c0AYJnIFzAA9ilEcJG5ClcJnUohC5PDcsnlXxhQH

Custom integration name *

coolOrange Vault Integration

Description

Description

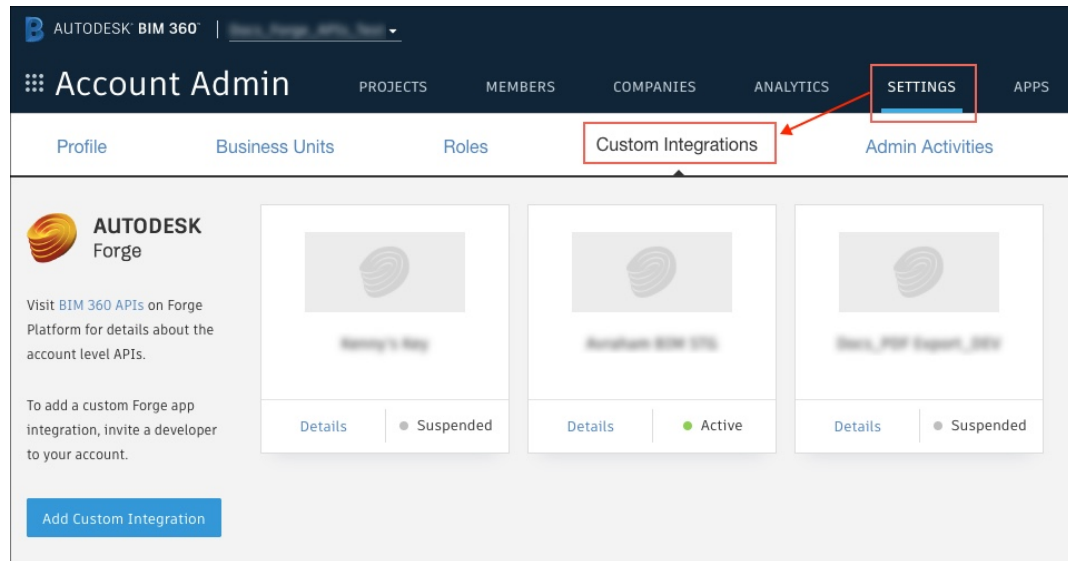
0/255

Cancel **Add**

5. Select a descriptive *Custom integration name*, e.g. coolOrange Vault Integration.
6. Click **Add** to save.

Autodesk BIM 360

1. Login to [BIM 360](#) as an admin.
2. Navigate to **Settings > Custom Integrations**:



3. Click the **Add Custom Integration** button.
4. Keep all Access options checked, and click the **Next** button.
5. Check the **I'm the developer** option, and click **Next** again.
6. In the *Forge Client ID* field, enter `dmPrAYr1c0AYJnIFzAA9ilEcJG5ClcJnUohC5PDcsnLXxhQH` :

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 i

App Logo

Select image to upload

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

* App Name

App Description

Back
Save

7. Select a descriptive *App name*, e.g. coolOrange Vault Integration.

8. Finally check the checkbox next to your *BIM 360 Account ID* and click **Save**.

The coolOrange Vault Integration app gives you access to all **free APS endpoints**.

If you need access to **premium APIs** (see the [APS Subscription Pilot](#)) or when working with **productive ACC and BIM 360 hubs**, you need to [create your own Autodesk app](#).

Afterward, you will receive unique app credentials with a different Client ID, which must be whitelisted by your system admin.

Ensure Autodesk Product Access

To use some APS endpoints such as ACC, BIM 360, or Fusion Team, your Autodesk ID must have the appropriate **permissions** and **product licenses** assigned.

Your [Autodesk account administrator](#) or contract manager must enable the necessary product access for all accounts in use (e.g. Build, Takeoff, or Docs).

1.3 Connect with Autodesk Platform Services

You're now ready to start scripting against APS endpoints using PowerShell.

Simply open the PowerShell IDE or editor of choice. The powerAPS module now provides cmdlets that allow you to authenticate and connect APS endpoints.

The module is generally imported automatically when you run one of its cmdlets.

The *Connect-APS* Cmdlet automatically uses the current Autodesk ID login on your machine. It provides access to all available Hubs via the `$APSCONNECTION` variable:

```
# Authenticate with APS using your current Autodesk ID; on workstations a browser might
↪open to complete the consent process
$connected = Connect-APS

$global:APSCONNECTION.Hubs
<#
John's Hub (note: personal A360 hub)

John's Team (note: Fusion hub)

build_JohnsCompany (note: ACC hub)

Id           :
HttpStatusCode : 403
ErrorCode    : BIM360DM_ERROR
Title        : Unable to get hubs from BIM360DM EMEA (on European Server)
Detail       : You don't have permission to access this API
AboutLink    :
Source       :
meta        :

#>
```

1.4 Calling other APS REST Endpoints

The `$APSCONNECTION.Headers` property provides the **3-legged OAuth access token**, which can be used to call a wide range of APS REST endpoints — such as Data Management APIs, Autodesk Construction Cloud APIs, and Fusion Manage APIs —

using PowerShell's built-in *Invoke-RestMethod* cmdlet:

```
$hub = $APSCONNECTION.Hubs["John's Hub"]

$response = Invoke-RestMethod -Method Get -Uri "https://developer.api.autodesk.com/
↪project/v1/hubs/$(($hub.id)/projects" -Headers $APSCONNECTION.Headers

foreach ($project in $response.data) {
    Write-Host $project.attributes.name
}
```


CODE REFERENCE

The Code Reference section describes:

2.1 Cmdlets

2.1.1 Connect-APS

Authenticates via OAuth and prepares a connection for communicating to Autodesk Platform Services (APS) using 3-Legged access tokens.

Syntax

```
Connect-APS [-User <String>] [<CommonParameters>]
<#
PARAMETER
  -User
    Required          false

  <CommonParameters>
    This cmdlet supports the common parameters: ErrorAction, ErrorVariable
#>
```

To use your own Autodesk app credentials for access to premium APIs:

```
Connect-APS -ClientId <String> [-ClientSecret <String>] [-CallbackUrl <Uri>] [-User
↪<String>] [<CommonParameters>]
<#
PARAMETER
  -ClientId
    Required          true

  -ClientSecret
    Required          false

  -CallbackUrl
    Required          false

  -User
```

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```

    Required          false

    <CommonParameters>
      This cmdlet supports the common parameters: ErrorAction, ErrorVariable
    #>

```

Parameters

Type	Name	Description	Default value
String	User	Email address of the Autodesk user to impersonate when running on the Job Processor . APS calls will be executed on behalf of this Autodesk ID	The <i>Autodesk ID signed in</i> on the workstation
String	ClientId	The Client ID of <i>your own Autodesk app</i> that needs authorization	Client ID of the default coolOrange Vault Integration app: <i>dmPrAYr1c0AYJnIFzAA9ilEcJG5ClcJnUohC5PDcsnl</i>
String	ClientSecret	The Client Secret shown next to the Client ID is the password of your Autodesk app. Only required for <i>Traditional Web App</i> apps. Not used for <i>Desktop, Mobile, Single-Page App</i> types.	–
Uri	CallbackUrl	The redirect URL configured for your Autodesk app. During authorization, users are redirected to this URL in the browser. For localhost, the port and path must be free.	http://localhost:8080/

Return type

Bool:

\$true ← on success.

\$false ← on failure with an additional property 'Error' containing the Exception/ErrorMessage.

Remarks

To use this Cmdlet without parameters, it's necessary to *sign-in once with your Autodesk ID* on workstations. On first use, the signed-in user must grant **consent** to access APS endpoints and the user's data.

After that, the session remains valid for a minimum of **15 days**. During this period, your customizations can act on behalf of that user without requiring additional login or consent prompts. This applies both to *client customizations* and *jobs*.

The session is automatically refreshed in the background whenever an APS call is made, and a new Bearer token is provided by the global variable *\$APSCconnection.Headers*.

As long as the session is renewed regularly, the 15-day validity is automatically extended.

To persist the user session and reuse it in future *Connect-APS* calls, a **Vault connection is required**. Therefore, run *Open-VaultConnection* in your PowerShell IDE initially.

On the Job Processor, you can impersonate a user via the **-User** parameter, as long as that Autodesk ID has previously given consent.

This enables all APS calls in the job to execute in that user's context without interaction. For security reasons, impersonation is only supported on the Job Processor.

The retrieved *Three-Legged access token* grants the following access scopes to the user's account:

```
data:read data:write data:create data:search viewables:read
bucket:create bucket:read bucket:update bucket:delete
user-profile:read user:read user:write account:read account:write
code:all openid
```

For most integrations, the use of free APS endpoints is sufficient (see [API Subscription Pilot](#)).

To access premium APIs, or when working with productive ACC and BIM 360 hubs, you must register your own Autodesk app and use the parameters **-ClientId**, **-ClientSecret**, and **-CallbackUrl**.

Note: Its recommended to use apps of type [Desktop](#), [Mobile](#), [Single-Page App](#). These apps do not require a Client Secret but are limited in API access.

Full access to all APIs requires a [Traditional Web App](#) type. Make sure to store and use your Client Secret securely and in encrypted form, as it protects access to your ACC and BIM 360 hubs and must never be exposed.

Examples

Connect to APS on a workstation using the currently signed-in Autodesk ID and retrieve the 3-legged access token

```
Open-VaultConnection # First, open a Vault connection so the APS session can be reused.
↳if available

Connect-APS # Authenticates with APS using the signed-in Autodesk ID; a browser might
↳open to complete the consent process

$global:APSConnection.Headers
<#
Name                               Value
----                               -
Authorization                       Bearer
↳eyJhbGciOiJSUzI1NiIsImapZCI6IoI4YjJkMzNhLSF1OTYtNDYwNS1iMWE4LTgwYjRhNWE4YjNlNyIsInR5cCI6IkpXVCJ9.
↳eyJhdWQiOiJodHRwczovL2F1dG9kZXNrLmNvbSIsIm...
#>
```

Run APS calls on Job Processor, impersonating the Autodesk ID of user who submitted the job

```
Connect-APS -User $job.SubmittedByAutodeskId # Authenticates with APS as the user who
↳already granted consent on a workstation

$hub = $APSConnection.Hubs['build_MyCompany']
$response = Invoke-RestMethod -Method Get -Uri "https://developer.api.autodesk.com/
↳project/v1/hubs/$( $hub.id)/projects" -Headers $APSConnection.Headers
```

Prerequisite on workstation:

```
Register-VaultEvent -EventName LoginVault_Post -Action {

    Connect-APS # User must first authenticate using the signed-in Autodesk ID and
↳consent via browser

    Add-VaultJob -Name '...' -Parameters @{
```

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```

    'SubmittedByAutodeskId' = $APSCONNECTION.User # Submit the job, passing the
    ↳Autodesk ID to impersonate
    'EntityId'= ...
    'EntityClassId'= ...
  } -Description "Job connecting to Autodesk Platform Services as Autodesk ID: $(
    ↳$APSCONNECTION.User)"
}

```

Error handling, analyze why the authentication failed

```

$result = Connect-APS -ClientId 'dmPrAYr1c0AYJnIFzAA9i...' -CallbackUrl 'http://
↳localhost:6666/callback'
if(-not $result) {
    $result.Error # Returns "Authentication to Autodesk Platform Services failed! Please
    ↳complete the browser sign-in using your Autodesk ID and grant all requested
    ↳permissions to continue. Reason: ..."
}

# Alternatively, for jobs:

Connect-APS -User $job.SubmittedByAutodeskId -ErrorAction Stop
<#
Terminates with:
Job processing requires Autodesk Platform Services authentication! Please connect on
↳your workstation using Autodesk ID 'johnnysqueeze@coolorange.com' and grant consent.
#>

```

Requirements

In order to use the Cmdlet with your ACC and BIM 360 hubs, make sure that the *systems are property provisioned*. This includes whitelisting the required Client ID and assigning the necessary product access to your Autodesk ID's.

2.1.2 Connection

Cmdlet related to establishing a connection with Autodesk Platform Services (APS):

Name	Description
<i>Connect-APS</i>	Authenticates via OAuth and connects to APS.

LOGGING

powerAPS uses [Apache log4net](#) as core logging library, and additionally [PostSharp Diagnostics](#) for extended Debug logging.

Log messages - Info, Warning, Error, and optionally Debug - are written to the **coolOrange powerJobs** log file. The specific location depends on where the powerAPS Cmdlets are used:

3.1 Job Processor

When used on the Job Processor, logs are written to '*C:\Users\{USER}\AppData\Local\coolOrange\powerJobs Processor\Logs\powerJobs Processor.log*'.

Logging behavior is configured via the *powerJobs Processor.log4net* file. For details, refer to:

[coolOrange powerJobs Processor Logging Guide](#)

3.2 Workstations

On regular Vault Client machines, log entries appear in '*C:\Users\{USER}\AppData\Local\coolOrange\powerJobs Client\Logs\powerJobs Client.log*':

Configuration is handled through the *powerJobs Client.log4net* file. Full documentation:

[coolOrange powerJobs Client Logging Guide](#)

CHANGE LOGS

4.1 powerAPS v26

4.1.1 v26.0.3

14-11-2025

General

- Internal refactoring of the setup and installation process.

4.1.2 v26.0.2

16-09-2025

General

- Internal improvements and minor fixes

4.1.3 v26.0.1

17-08-2025

Features

- **New cmdlet:** *Connect-APS* makes it easy to authenticate with Autodesk Platform Services — either using your signed-in Autodesk ID on a workstation, or by impersonating a user on the Job Processor (*3-legged token*)

powerAPS is a PowerShell Module that provides direct access to [Autodesk Platform Services \(APS\)](#) from within PowerShell scripts.

It provides easy to use Cmdlets to integrate Autodesk Vault with APS endpoints like Autodesk Construction Cloud (ACC), BIM 360, Fusion Team, and more — ideal for automating workflows with **coolOrange powerJobs** and beyond.

Installed and licensed with coolOrange powerJobs



The powerAPS module is part of **coolOrange powerJobs**.

It is automatically **installed, updated** and **activated** together with **powerJobs Processor** or **powerJobs Client**, depending on where it is used.

Please follow the appropriate product guide depending on your setup:

JOB PROCESSOR

For installation, activation and trial limitations on the Job Processor:

[coolOrange powerJobs Processor](#)

WORKSTATIONS

For regular Vault Client machines:

coolOrange powerJobs Client