Dual Home Save performance metrics

Performance test process

- MFGDM Performance test should be carried out on dev build and then QA will be responsible for driving performance test sign off with RC build in staging
- This performance test wiki includes test results, test data, workflows, test environments (build #, OS, network).
- The user-perceived performance time will be logged from the moment the 'Save' button is clicked until the spinning circle in the data panel disappears.

Performance dataset

Dataset used for testing: (can be downloaded directly)

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low complexity

Internal: Template PCM _ Standard-2.f3z
External: Espresso+Machine.f3z

Medium Complexity

Internal: Off+Road+Dirt+Bike_Del+Toro.f3d
External: Makita+Angle+Grinder.f3z

High Complexity

Internal: Layout (1).f3z
External: Assembly-P99 v3 (1).f3z

Customer data is recommended, for more testing data, please reach out to Fusion performance team.

Extra datasets: *(needed access)*
Below customer dataset is for ***Internal Testing Only****, do not share outside Autodesk. Can't be used for training material and market content. Dataset details in Target Customer Datasets FY24.*

- Low dataset:
  Internal components design
  - Garret Hunter: New Layout.f3z
  - Go Fast Campers: Template PCM _ Standard-2.f3z
  - Go Fast Campers: Topper - Template - Mini Brace Fixes
  - Punch: Eye Bubble Punch v1

  External components design
  - Punch System v2.f3z
  - De-Vil AG P/L: head bale v1.f3z
  - De-Vil AG P/L: feeder+mk3.f3z
  - Technical Marketing: Espresso+Machine.f3z
  - Technical Marketing: Rock & Concrete Grinder Overall+Assembly.f3z
  - Recycleye: Il Solco Mater v1.f3z
- Medium dataset:
  Internal components design
  - @ herontwerp P40 midden.f3z
  - Dimamond Display Group: A.D.A.M.f3z

  External components design
  - Qlayers: qlayers+Trailer+V4+Assembly+v3.f3z
  - Photocentric: LC Titan Pro15495 Rebuilt v145.f3z
  - EnableMe: 12 Wheelchair Seating B v3.f3z
  - WoolTech: CP-1334GA 4C Complete v1.f3z
  - FU-Tech: VT-XX0000-150 (1).f3z
  - Arix Tech: ARIX-RD-08 RTR.f3z
  - Peter Doering: Layout (1).f3z
  - Henrique - TechDuto: COH20D-V2.f3z

    - FZ-XX0000-510-355.f3z
- High dataset:
  Internal components design
    - DA250-4+Helpdesk.f3z

  External components design
    - Peter Doering: Overall+Layout+V2.f3z

Performance Result:

Build Number: Fusion 2.1.14192 x86_64 Date: 8th October 2024

Feature flag used: fusion-pim-dual-home-save

```
Machine: Cloud PC - Windows 10 Enterprise 22H2 (19045.4894)
```

Complexity	WIP All time (in sec)		PIM total time (in sec)	
	FF ON	FF OFF	FF ON	FF OFF
Low Internal	67.435	54.134	91.288	109.626
Low External	21.253	20.848	73.688	72.9225
Medium Internal	25.296	26.752	38.22	46.1425
Medium External	20.114	22.924	860.009	831.413
Large Internal	103.273	92.705	384.045	748.9355
Large External	23.745	17.896	178.036	104.802

```
More details below:
```

Complexity	WIP All Time					WIP Time					PIM Total Time					File Name		Lineage URI	
	WITH FF ON	Median with FF ON	FFOFF	Median FF off	Difference	With FF ON	Median with FF ON	FFOFF	Median with FF OFF	Difference	With FF ON	Median with FF ON	With FF Off	Median with FF OFF	Difference	FF on	FF off	FF on	FF off
LOW_ EXTERNAL	21253	21253	20848	23458	2205	4156	5042	3589	4010.5	-1031.5	95045	73688	66430	72922.5	-7655	Espresso Machine_saved1_2024-10-02_15-27-28	Espresso Machine_saved1_2024-10-03_14-41-14	urn:adsk.wipqa:dm.lineage:k6hRDQ0OReO6WjHRGXdeyA	urn:adsk.wipqa:dm.lineage:RwQri2eZS9u9mHYsSx-P3g
components details 1. Number Of Unique Components: 114 2. Number Of External Reference Documents: 11 3. Total Number Of Component Occurrence: 189	20971		23144			5127		3791			71026		68376			Espresso Machine_saved2_2024-10-02_15-58-51	Espresso Machine_saved2_2024-10-03_15-18-40	urn:adsk.wipqa:dm.lineage:rvbQ8-9ASO2DPEbkmj_7Aw	urn:adsk.wipqa:dm.lineage:adGZXN9nQwmOd2BMAoV2bA
	25789		23772			5042		4230			73688		77469			Espresso Machine_saved3_2024-10-02_16-41-38	Espresso Machine_saved3_2024-10-03_16-17-09	urn:adsk.wipqa:dm.lineage:cEs8Gl7LSwKzWeX0MHeetQ	urn:adsk.wipqa:dm.lineage:eJkSy89ZQpey36Q2UxU8hw
LOW_INTERNAL	67435	67435	54134	59039	-8396	6427	6735	6903	6254	-481	92780	91288	122300	109626	18338	Template PCM | Standard_saved1_2024-10-02_15-39-39	Template PCM | Standard_saved1_2024-10-03_14-51-39	urn:adsk.wipqa:dm.lineage:sDBdoSnLQEOk1v3N4GlBGA	urn:adsk.wipqa:dm.lineage:E9c9Hne6T9iNx4xgxp_gFA
components details 1. Number Of Unique Components: 29 2. Number Of External	67782		59039			6735		5901			91288		109626			Template PCM | Standard_saved2_2024-10-02_16-11-36	Template PCM | Standard_saved2_2024-10-03_15-36-51	urn:adsk.wipqa:dm.lineage:OsrPKYSiQ3anCQBA2jwJ1A	urn:adsk.wipqa:dm.lineage:_5Dr7AE1RCCmYQilMfZBgA

Reference Documents: 0 3. Total Number Of Component Occurrence: 29	63601		59594			6812		6254			78674		80424			Template PCM | Standard_saved3_2024-10-02_17-00-16	Template PCM | Standard_saved3_2024-10-03_16-36-49	urn:adsk.wipqa:dm.lineage:73Ol3Y_HRgmfWhGBrp2unQ	urn:adsk.wipqa:dm.lineage:tIfdeV8vQliRtERzX9bVgQ
MEDIUM_INTERNAL	25296	25296	26752	27098	1802	5071	5233	4913	4939	-294	47304	38220	44211	46142.5	7922.5	Makita Angle Grinder_saved2_2024-10-10_02-03-35	Makita Angle Grinder_saved1_2024-10-10_02-18-10	urn:adsk.wipqa:dm.lineage:lqwHI-6DSyG2XFfAxgElJg	urn:adsk.wipqa:dm.lineage:Zl7wEeVGRmeU0StyCCWeaw
components details 1. Number Of Unique Components: 15 2. Number Of External Reference Documents: 5 3. Total Number Of Component Occurrence: 16	23529		24084			5233		4706			35804		51650			Makita Angle Grinder_saved3_2024-10-10_02-05-31	Makita Angle Grinder_saved2_2024-10-10_02-19-55	urn:adsk.wipqa:dm.lineage:YvZ7tPPMTMivOdt_Ue5IoQ	urn:adsk.wipqa:dm.lineage:KIJPjmTKTtqy87nAREaAGQ
	28222		30112			5294		5172			38220		40635			Makita Angle Grinder_saved4_2024-10-10_02-07-27	Makita Angle Grinder_saved3_2024-10-10_02-21-43	urn:adsk.wipqa:dm.lineage:sC1NS0xCR_quUKrQ2hZP7Q	urn:adsk.wipqa:dm.lineage:N-aNKGnrQZOUkCXZlilXIA
MEDIUM_EXTERNAL	20114	20114	22924	22924	2810	5690	4591	5454	4656	65	86000 09	860009	83141 3	831413	-285 96	Layout_saved1_2024-10-06_17-00-54	Layout_saved1_2024-10-06_18-14-50	urn:adsk.wipqa:dm.lineage:I1W07Mv1SfCLpunP0gygeA	urn:adsk.wipqa:dm.lineage:GbwWM5JATdqurgdxLO2MOg
components details 1. Number Of Unique Components: 1536 2. Number Of External Reference Documents: 11 3. Total Number Of Component Occurrence: 2819	28414		25239			4591		4656			70405 1		15085 06			Layout_saved1_2024-10-13_14-10-59	Layout_saved2_2024-10-15_15-03-58	urn:adsk.wipqa:dm.lineage:r0UQ_DRVRf6iYoJWHwNOFw	urn:adsk.wipqa:dm.lineage:6qXAfJyASD27ctQUk8XO_g
	17312		21144			4266		3373			10193 22		26367 1			Layout_saved1_2024-10-17_17-43-03 v1	Layout_saved1_2024-10-17_17-43-03 v1	urn:adsk.wipqa:dm.lineage:sAapsp1zRyO6vOTKbD4cpQ	urn:adsk.wipqa:dm.lineage:chrjGmCZR0GBXNdcNLosTQ
LARGE_INTERNAL	103273	103273	92705	91441	-11832	6450	7256	6478	6269.5	-486 .5	361662	384045	55388 4	74893 5.5	364890 .5	Off+Road+Dirt+Bike_Del+Toro (1)_saved1_2024-10-14_00-29-55	Off+Road+Dirt+Bike_Del+Toro_saved1_2024-10-14_12-00-19	urn:adsk.wipqa:dm.lineage:A5jUOfEPTNSp-cXbti7iTg	urn:adsk.wipqa:dm.lineage:u344XhjZSyGZ_Ylx5yBvMw
components details 1. Number Of Unique Components: 450 2. Number Of External Reference Documents: 0 3. Total Number Of Component Occurrence: 595	103594		91746			7814		6267			38404 5		75009 9			Off+Road+Dirt+Bike_Del+Toro (1)_saved1_2024-10-14_00-10-49	Off+Road+Dirt+Bike_Del+Toro_saved2_2024-10-14_12-02-13	urn:adsk.wipqa:dm.lineage:K1fyOxbRS-GTzLLuZsGh5g	urn:adsk.wipqa:dm.lineage:4qHQQQMaR_ChxgGT6nteaw
	101548		91136			7256		7272			39468 3		74777 2			Off+Road+Dirt+Bike_Del+Toro_saved1_2024-10-13_22-48-00	Off+Road+Dirt+Bike_Del+Toro_saved1_2024-10-17_14-53-07	urn:adsk.wipqa:dm.lineage:QxUwuFyASDa9X6j9bEeDEw	urn:adsk.wipqa:dm.lineage:jF7XE-BZTTmv6Q6ZyC2nKw
LARGE_EXTERNAL	23745	19460	17896	17896	-1564	4952	5040	4964	4964	-76	615480	178036	78271 9	104802	-732 34	Assembly-P99_saved1_2024-10-09_12-44-25	Assembly-P99_saved1_2024-10-08_14-08-57	urn:adsk.wipqa:dm.lineage:iOwLC0ehSYCXsXNsxxYKhQ,	urn:adsk.wipqa:dm.lineage:ccvNrEL0Tpa3lxQTOOdaOA

components details 1. Number Of Unique Components: 29 2. Number Of External Reference Documents: 0 3. Total Number Of Component Occurrence: 29	19460		17534		5173		4627		17803 6		10480 2		Assembly-P99_saved2_2024-10-09_13-15-14	Assembly-P99_saved2_2024-10-10_18-25-45	urn:adsk.wipqa:dm.lineage:Kj6bVdUVQzO1CgqkqSfW1g	urn:adsk.wipqa:dm.lineage:WFwM-cX6QLCPfMxx3E-jUgSfW1g
	19347		20894		5040		5749		74884		70686		Assembly-P99_saved3_2024-10-09_14-58-01	Assembly-P99_saved3_2024-10-10_19-13-57	urn:adsk.wipqa:dm.lineage:Ib6N4GMCRTS1zGeVF7ycuA	urn:adsk.wipqa:dm.lineage:GK9TDX5kRFCm2rhixSBnzw

Performance test workflow

- **Upload** workflow:
    1. Local Source Path: Provide local folder path
    2. Upload: Upload files to Fusion with timestamped folder name
- **Save** workflow
    1. Iterations: Number of iterations are provided
    2. Save-As: Save-As all files in each iteration at iteration_n timestamped folder
    3. Lineage URNs: Capture lineage URNs from iteration folders
    4. Log Matching: Match lineage URNs in logs and capture:
        - WIP All Time
        - WIP Time
        - PIM Total Time
    5. CSV File: Dump data into CSV file in local log path

Template for storing metrics: performance_testing_results.xlsx

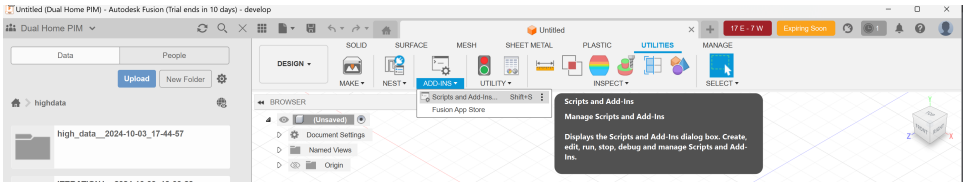
Process:

How to run scripts

1.Clone the Repository: Clone this repository (https://git.autodesk.com/manufacturing-data-model/common-utilities.git) to your local machine using the following command:

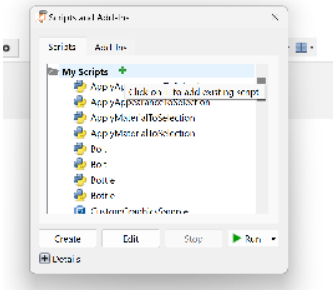
```
git clone <repository-url>
```

2.Configure Fusion:

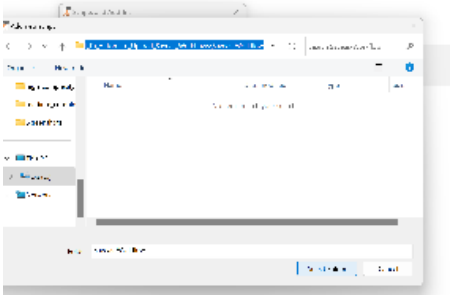
- Open Fusion Dev or Staging Streamer.
- In the top menu, navigate to Utilities Add-ins Scripts and Add-ins.
- 

- Add Scripts:

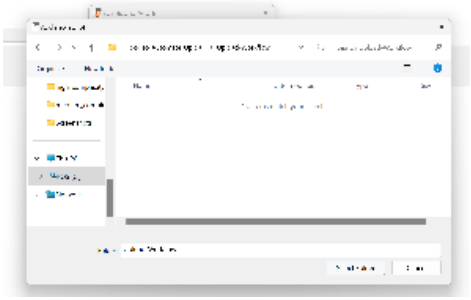
- Click the plus (+) icon next to My Scripts in the dialog box.



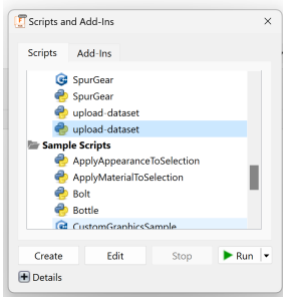
- Select the folder containing the **saveas-and-extract-metrics script** from the cloned repository and click Select.



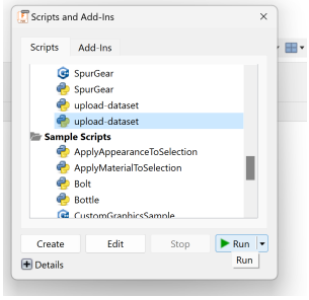
- Repeat the process to add the **upload-dataset** script folder and click Select.



- Run the Scripts:
  - From the Add-ins menu, you can now select the script (either Upload or Save-As) you wish to run.



  - Click Run to execute the selected script.



Upload

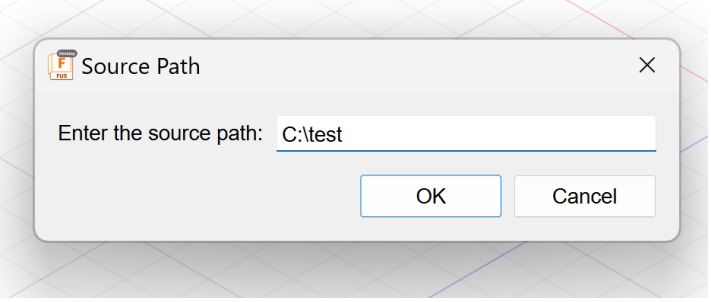
- Note: for MAC users for best practice please open the folder containing datasets in terminal and run this command for removing hidden file like . DS_store. else this too will be uploaded in fusion

commands for deleting hidden file
`rm .DS_Store` `find . -name '.DS_Store' -type f -delete`

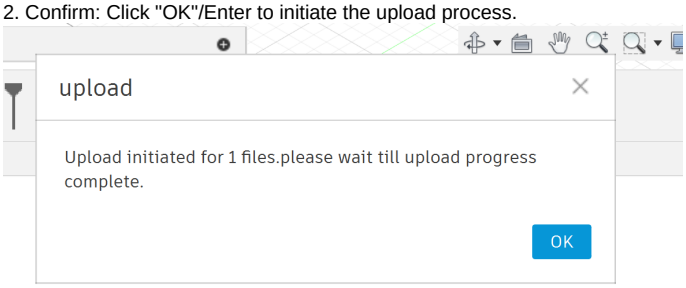
Steps:

- Open the project where you want to upload
- Run the script: upload-dataset.py

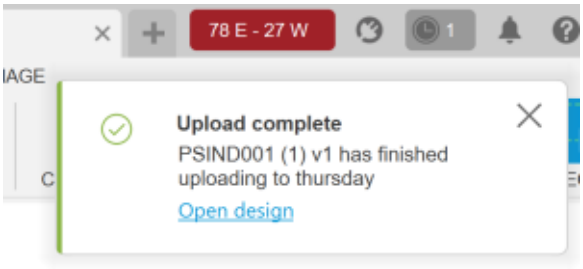
1. Enter File Path: Open the folder containing the files and paste the path into the designated field.



2. Confirm: Click "OK"/Enter to initiate the upload process.



3.Wait approximately 2-15 minutes (depending on file size) and then check if the upload is complete in UI.

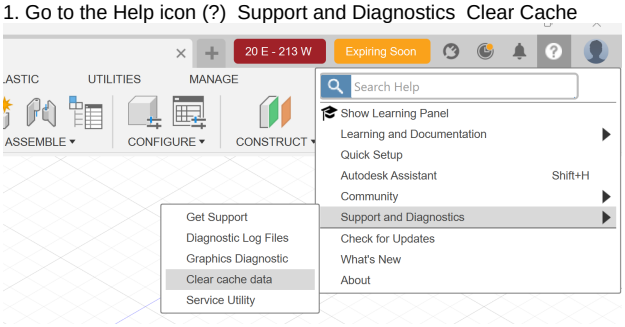


Save-as and Extract data

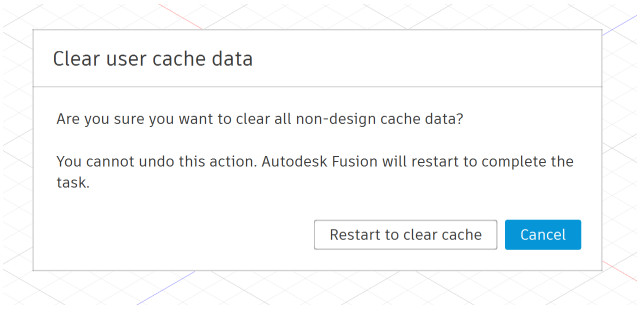
- Pre-Execution Steps

  Before running the script, clear the cache to ensure a smooth execution
  (When you open fusion dev if u get alerts, please do **ctrl+shift+ignore** so those may not disturb while running script.)

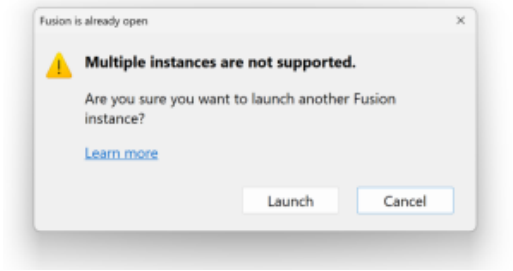
1. Go to the Help icon (?) Support and Diagnostics Clear Cache



2. Click "Restart" to clear the cache (Note: This will restart Fusion 360)

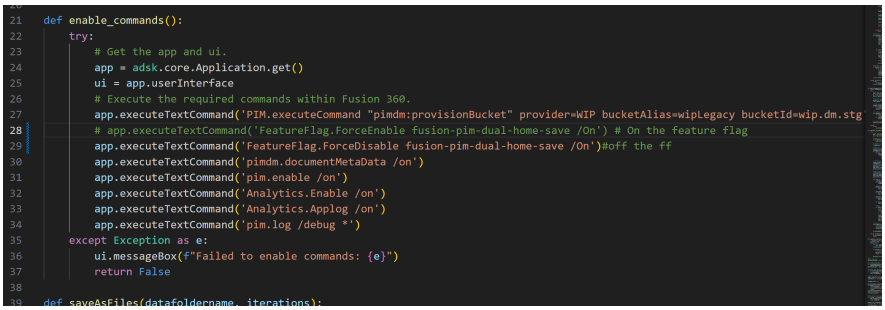


Click on launch



3. By default, the script performs save-as and extraction with the Feature Flag enabled(on). To run the script with the feature flag disabled, simply uncomment line 29 (which turns off the feature flag) and comment line 28 (which turns it on)). Alternatively, you can switch the comments to enable the feature flag if needed.

```
20
21  def enable_commands():
22      try:
23          # Get the app and ui.
24          app = adsk.core.Application.get()
25          ui = app.userInterface
26          # Execute the required commands within Fusion 360.
27          app.executeTextCommand('PIM.executeCommand "pimdm:provisionBucket" provider=WIP bucketAlias=wipLegacy bucketId=wip.dm.stg
28          app.executeTextCommand('FeatureFlag.ForceEnable fusion-pim-dual-home-save /On') # On the feature flag
29          #app.executeTextCommand('FeatureFlag.ForceDisable fusion-pim-dual-home-save /On')#off the ff
30          app.executeTextCommand('pimdm.documentMetaData /on')
31          app.executeTextCommand('pim.enable /on')
32          app.executeTextCommand('Analytics.Enable /on')
33          app.executeTextCommand('Analytics.Applog /on')
34          app.executeTextCommand('pim.log /debug *')
35      except Exception as e:
36          ui.messageBox(f"Failed to enable commands: {e}")
37          return False
38
39  def saveAsFiles(datafoldername, iterations):
40      folder_names = []  # List to store the names of created folders
```

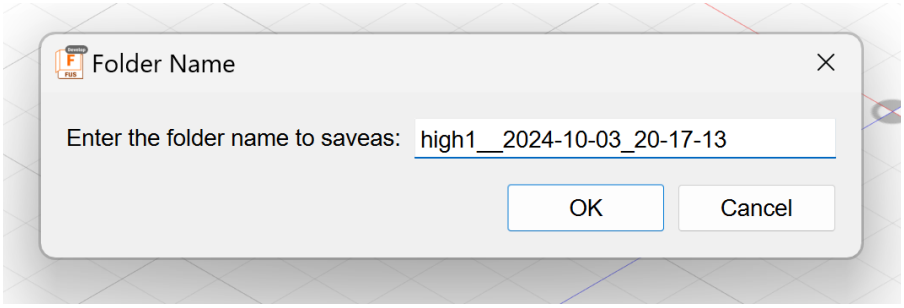


```
21  def enable_commands():
22      try:
23          # Get the app and ui.
24          app = adsk.core.Application.get()
25          ui = app.userInterface
26          # Execute the required commands within Fusion 360.
27          app.executeTextCommand('PIM.executeCommand "pimdm:provisionBucket" provider=WIP bucketAlias=wipLegacy bucketId=wip.dm.stg
28          # app.executeTextCommand('FeatureFlag.ForceEnable fusion-pim-dual-home-save /On') # On the feature flag
29          app.executeTextCommand('FeatureFlag.ForceDisable fusion-pim-dual-home-save /On')#off the ff
30          app.executeTextCommand('pimdm.documentMetaData /on')
31          app.executeTextCommand('pim.enable /on')
32          app.executeTextCommand('Analytics.Enable /on')
33          app.executeTextCommand('Analytics.Applog /on')
34          app.executeTextCommand('pim.log /debug *')
35      except Exception as e:
36          ui.messageBox(f"Failed to enable commands: {e}")
37          return False
38
39  def saveAsFiles(datafoldername, iterations):
```

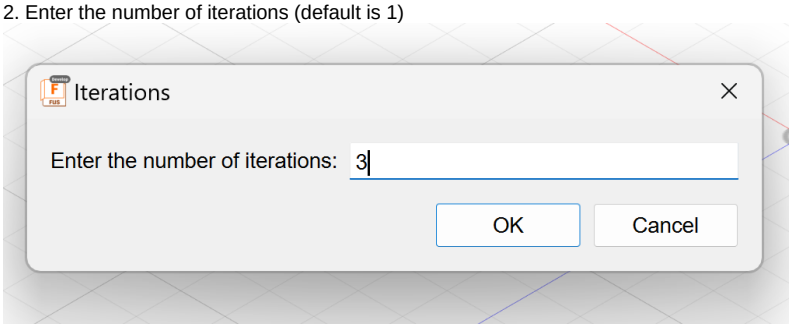
- Open the project and folder where the uploaded files are present or the folder with only main assemblies that you moved.

- Run the script: saveas-and-extract-metrics.py

- Input:
(**NOTE:** for best practice if you want to do save as for only main assemblies of uploaded datasets (ignoring part files if there are many) please move the main assembly files to a new folder and run the script on that new folder)
1. Enter the folder name that needs to be saved

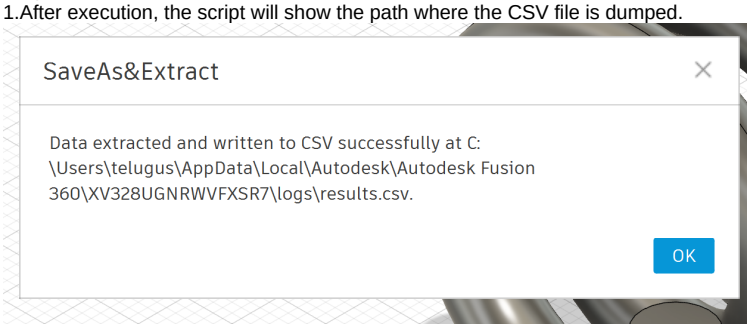


2. Enter the number of iterations (default is 1)

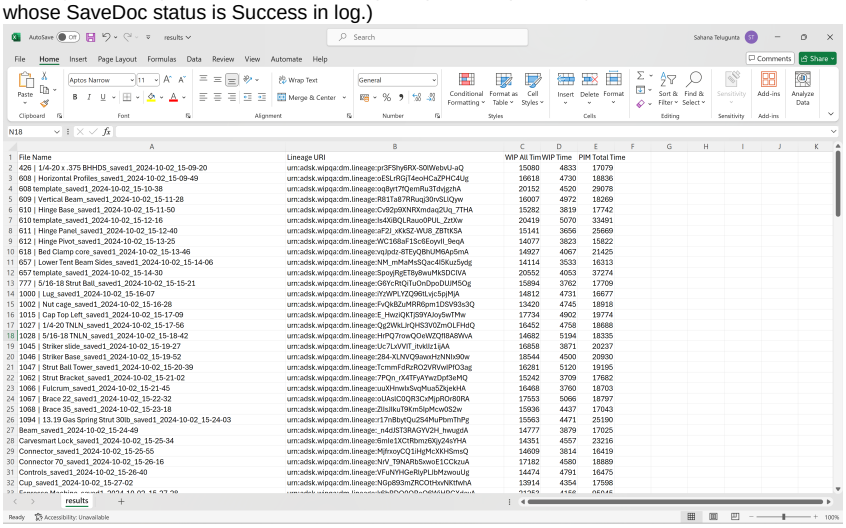


3. Click ok that's it now script runs by opening the files and do save-as. (Please not to disturb fusion while script is running.)

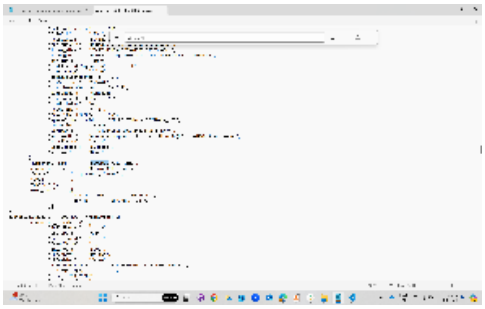
- Output:
1.After execution, the script will show the path where the CSV file is dumped.

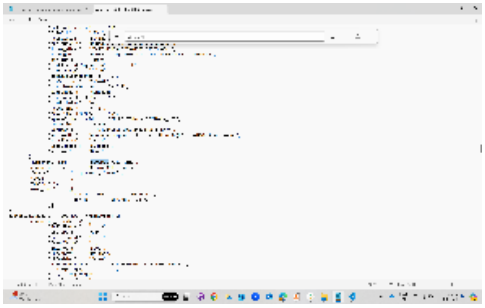
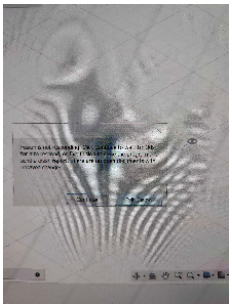


2.Navigate to the path indicated in the script output and open the generated CSV file and review results. (Note that script extracts for the files whose SaveDoc status is Success in log.)



Common Errors during execution

- 

  Reason: File not loaded properly due to network issues or cloud-side problems.
  Possible solution: Clear cache and rerun the script.
- Timings not found for some files in csv file:
  Reason: SaveDoc failure
  
  Possible solution: Check log files at given paths for errors.
  Windows: C:\Users\<username>\AppData\Local\Autodesk\Autodesk Fusion 360\<oxygen_id>\logs
  Mac: /Users/<username>/Library/Application Support/Autodesk/Autodesk Fusion 360/<oxygen_id>/logs
  (replace with your username and oxygen ID)
  clear cache or try after some time as it might be cloud-side translation problems or else data set might be corrupted or updating of logs took more time etc.
- 

  Reason: Fremount instability
  Possible Solution: If possible, Monitor the process in between some times and click "Continue" to avoid automatic crashes.