# Export Data from LiveView

## Getting Started

To call any of the below APIs, the first step is to retrieve a OAuth2 Bearer token from PIM360 via either 2-legged or 3-legged flow. (Link to Authentication tutorial)

Make sure that the account that will be calling the APIs has the relevant capabilities by attempting to query and export data from LiveView via the User Interface.

There are two ways to export data from LiveView. The first is to create a query and then retrieve the query results, this will give data in a JSON format. The second is export an existing LiveView using an export activity and then retrieve the resulting file from the timeline.

## Export LiveView Data Using a Query

### Create LiveView Query

Using the API *POST /queries* we can specify what data we want to retrieve from PIM360 and how it should be filtered.

If querying EIC data, you will need to get the handle of the EIC being used. To do this you can either call the *GET /eic/list* API or retrieve it from the user interface. To get it from the user interface, from EIC Explorer, double click on the EIC being queried and it should open in a new tab. The EIC handle can be found at the end of the URL in the address bar.

https://{{SystemName}}.pim360.io/object/EIC/oAyC4g09T6mzP9cuyuSD5Q

To retrieve or query attributes, you will also need the handles of those attributes. These can be found by either using the *GET /domains/{domainHandle}/classes* API in CLS360, or through the CLS360 user interface. To get it from the CLS360 user interface, find the attribute in CLS360 and double click on it and it should open in a new tab. The attribute handle can be found at the end of the URL in the address bar

https://{{SystemName}}.cls360.io/detail/classes/a-YbYQutSYChTEctCfUydw?ts=1715575920319

#### POST Queries Request

curl --location --request POST 'https://{{SystemName}}.pim360.io/api/queries' \

  -H 'Content-Type: application/json' \

  -H "Authorization: Bearer nFRJxzCD8OOUr7hzBwbr06D76zAT..." \

  --data-raw '{

    "type": "TAGGED\_ITEM",

    "eic": "oAyC4g09T6mzP9cuyuSD5Q",

    "filter": {

      "logical": "AND",

      "items": [

        {

          "handle": "a-YbYQutSYChTEctCfUydw",

          "operator": "$eq",

          "value": "CON-100",

          "caseSensitive": true

        }

      ]

    },

    "fields": [

      "a-YbYQutSYChTEctCfUydw"

    ]

  }'

#### POST Queries Response

{

    "url":"/api/queries/Znx1wwq5RcGAja8hwYzCkA",

    "resulturl":"/queryresults/Znx1wwq5RcGAja8hwYzCkA",

    "hdl":"Znx1wwq5RcGAja8hwYzCkA"

}

From the response, note the hdl.

### Retrieve LiveView Data

With the query handle, we can now call the *GET /queryresults/{handle}* API to retrieve the query results in JSON format.

#### GET QueryResults Request

curl --location --request GET 'https://{{SystemName}}.pim360.io/api/queryresults/Znx1wwq5RcGAja8hwYzCkA?eic=oAyC4g09T6mzP9cuyuSD5Q&limit=200' \

  -H 'Content-Type: application/json' \

  -H "Authorization: Bearer nFRJxzCD8OOUr7hzBwbr06D76zAT..."

#### Get QueryResults Response

{

    "hdl": "Znx1wwq5RcGAja8hwYzCkA",

    "data": [

      {

        "hdl": "f69C8QXtRU-7bN2CNwwF0g",

        "objId": "CON-100",

        "idHdl": "a-YbYQutSYChTEctCfUydw",

        "type": "TAGGED\_ITEM",

        "icon": "TAG",

        "a-YbYQutSYChTEctCfUydw": {

          "value": "CON-100",

          "uom": null,

          "valueChange": "",

          "rawValue": "CON-100",

          "name": "ID Number",

          "isRequired": true

        },

        "sFQpbDs\_Q0q7Syna4B8xjQ": {

          "value": "Concrete Pour",

          "uom": null,

          "valueChange": "",

          "rawValue": "Concrete Pour",

          "name": "CLASS\_NAME",

          "isRequired": true

        }

      }

    ],

    "timetaken": 10,

    "hasmore": false,

    "url": "/queryresults/Znx1wwq5RcGAja8hwYzCkA",

    "queryurl": "/queries/Znx1wwq5RcGAja8hwYzCkA"

}

The data from LiveView can be found in the data array in the response. Each object in the array represents a row in LiveView. Attributes for each row are held as properties on the objects, where the key is the attribute handle and the value is an object with attribute details.

If the *hasmore* attribute is set to **true** in the response, then that means that there are more results available on the next page. To get values on the next page the *skip* and *limit* query parameters need to be set. For example to get data on the second page, the request would look like:

curl --location --request GET 'https://{{SystemName}}.pim360.io/api/queryresults/Znx1wwq5RcGAja8hwYzCkA?eic=oAyC4g09T6mzP9cuyuSD5Q&skip=200&limit=200' \

  -H 'Content-Type: application/json' \

  -H "Authorization: Bearer nFRJxzCD8OOUr7hzBwbr06D76zAT..."

## Export LiveView Data Using an Activity

By exporting data using an export activity you can easily retrieve large and complex queries without having to create the query every time or dealing paging. This is because this method reuses existing LiveView queries that can be repeatedly run.

However, this method will block the timeline until completed, so if an export activity is known to take a long period of time to run then you should either only call it during quiet periods or export data using a query.

### Submit Export Activity

To submit an export activity, call the *POST /etl\_queue/activities/export* API. This API **requires** the below parameters:

* Liveview handle
* ETL Target handle
* Output format
* Type

*LiveView Handle* Can be found by opening an existing saved LiveView in the user interface and retrieving it from the URL:

https://{{SystemName}}.pim360.io/liveview?viewhash=PgC1Tro4QpqX6-8OvSp1bA

*ETL Target Handle* Can be found by double clicking on the ETL Target name in CLS360 under ETL > ETL Targets so that it opens in a new tab. The handle can then be found in the URL:

https://{{SystemName}}.cls360.io/detail/classes/TGI4qf9iS8uET6VaO8mosA?ts=1715582294064

*Output format* defines what file format is generated can be one of:

* xlsx
* delimited
* json

*Type* the type of item being exported, can be one of:

* TAGGED\_ITEM
* DOCUMENT
* EQUIPMENT\_MODEL
* EQUIPMENT\_ITEM

#### POST Export Activity Request

curl --location --request POST 'https://{{SystemName}}.pim360.io/api/etl\_queue/activities/export' \

  -H 'Content-Type: application/json' \

  -H "Authorization: Bearer nFRJxzCD8OOUr7hzBwbr06D76zAT..." \

  --data-raw '{

    "liveviewHdl": "PgC1Tro4QpqX6-8OvSp1bA",

    "etlTargetHdl": "TGI4qf9iS8uET6VaO8mosA",

    "outputFormat": "xlsx",

    "outputFilename": "LiveView",

    "eicHdl": "oAyC4g09T6mzP9cuyuSD5Q",

    "concatUoms": false,

    "ignoreFilter": false,

    "typedData": true,

    "allAttributes": false,

    "type": "TAGGED\_ITEM"

  }'

#### POST Export Activity Response

{

  "response": {

    "act\_name": "LiveView Export - LiveView",

    "act\_type": "EXPORT",

    "act\_id": "EXPORT\_OBJECT",

    "export\_mode": "xlsx",

    "export\_typed": true,

    "delimiter": "\t",

    "eic\_handle": "oAyC4g09T6mzP9cuyuSD5Q",

    "target\_handle": "TGI4qf9iS8uET6VaO8mosA",

    "concat\_uom": "false",

    "query": "",

    "output\_name": "LiveView",

    "user\_name": "username",

    "user\_job": "API",

    "user\_handle": "j9q65-fBQ9aJ\_Hpx\_C76Bw",

    "act\_handle": "wSlzKqGCTj2IMA\_hy2DAEA"

  }

}

From the response, note the *act\_handle* parameter. This is the handle of the activity that has been submitted to the timeline.

### Check for activity completion

When submitting an export via the timeline, the data is not immediately available, it is necessary to check the activity status for a successful completion. To do this, call the *GET /etl\_queue/activities/{handle}* API and provide the handle of the activity that has been submitted.

#### GET Activity Status Request

curl --location --request GET 'https://{{SystemName}}.pim360.io/api/etl\_queue/activities/wSlzKqGCTj2IMA\_hy2DAEA' \

  -H 'Content-Type: application/json' \

  -H "Authorization: Bearer nFRJxzCD8OOUr7hzBwbr06D76zAT..."

#### GET Activity Status Response

{

  "hdl": "PLGJ9BCWTGa653AhB3inlw",

  "status": "COMPLETE",

  "params": {

    "export\_mode": "xlsx",

    "delimiter": "\t",

    "eic\_handle": "oAyC4g09T6mzP9cuyuSD5Q",

    "target\_handle": "TGI4qf9iS8uET6VaO8mosA",

    "concat\_uom": "false",

    "query": "",

    "export\_typed": true,

    "output\_name": "LiveView"

  }

}

The status of the activity can be found in the *status* attribute of the response. If the status is “IN PROGRESS” then the API should be called again after a short delay of a few seconds. If the status is “COMPLETE” then the exported file is ready to be downloaded.

### Retrieve File Details From Timeline

To retrieve the file that has been generated in the export, call the *GET /timeline* API, providing the activity handle

#### GET Timeline Request

curl --location --request GET 'https://{{SystemName}}.pim360.io/api/timeline?hdl=wSlzKqGCTj2IMA\_hy2DAEA' \

  -H 'Content-Type: application/json' \

  -H "Authorization: Bearer nFRJxzCD8OOUr7hzBwbr06D76zAT..." "

#### GET Timeline Response

[

  {

    "\_id": "66429a41a073ff77f962eadb",

    "Hdl": "wSlzKqGCTj2IMA\_hy2DAEA",

    "Attachments": [],

    "Completed": "2024-05-13T22:54:58.183Z",

    "Created": {

      "Hdl": "j9q65-fBQ9aJ\_Hpx\_C76Bw",

      "Name": "username",

      "Job": "API",

      "Ts": "2024-05-13T22:54:56.018Z"

    },

    "Name": "LiveView Export - LiveView",

    "Src": null,

    "Started": "2024-05-13T22:54:56.018Z",

    "TaskCnt": 1,

    "TaskNo": 1,

    "Tasks": [

      {

        "Hdl": "3EruJPtUQP2z35usaBaxGg",

        "ActHdl": "wSlzKqGCTj2IMA\_hy2DAEA",

        "Name": "Exporting Items",

        "Status": "Complete",

        "TotalRowCnt": 0,

        "CurrRow": 0,

        "ErrCnt": 0,

        "Attachments": [

          {

            "Hdl": "JynfUZPaTFyx3R9dfVFY5A",

            "Name": "LiveView.xlsx.zip",

            "Type": "zip"

          }

        ],

        "Started": "2024-05-13T22:54:57.342Z",

        "Completed": "2024-05-13T22:54:58.183Z"

      }

    ],

    "Type": "REPORT",

    "Status": "Complete",

    "Comments": []

  }

]

From the response, retrieve the first handle in the attachments of the first task. This is the handle of the file to download.

### Download the file from PIM360

With the file handle retrieved we can now download the file itself from PIM360 using the *GET /file/{handle}* API.

#### GET File Request

curl -X 'GET' \

  'https://{{SystemName}}.pim360.io/api/file/PLGJ9BCWTGa653AhB3inlw' \

  -H 'accept: application/zip' \

  -H 'authorization: Bearer nFRJxzCD8OOUr7hzBwbr06D76zAT...'

#### Get File Response

The file is then returned as a binary response which can be saved to disk as a zip file. Once extracted the LiveView export file will be in the zip.