



**JPX**

# **FLEX Historical Service API data acquisition manual**

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1. Introduction
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- The contents are subject to revision without notice.

# 1. Introduction

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## ■ 1-1. About this document

- This document is an operation manual for downloading the PCAP file provided by the FLEX Historical service.
- For the information required for data acquisition, please refer to the "Configuration Sheet" provided after the contract.
- In the following chapters, we will show you examples of downloading using the following software. It does not limit any other method.

Software to use	Place of description
PowerShell	2. Data acquisition method using Poswer Shell
cURL	3. Data acquisition method using cURL

- If the version of each software used in this manual and the environment you are using are different, please read as appropriate.
- Please check the API specifications from the URL below.
- <http://apidoc-flex.jpx-datSERVICE.com/>

## 2. Data acquisition method using Poswer Shell



# 2. Data acquisition method using Poswer Shell

## ■ Outline

- This section describes the specific operation procedure using Powershell. The outline of the manual is as follows.

No.	Process	Description
2-1.	Authentication/Token acquisition	To acquire authentication token used for API matching by using the user ID and password registered in the "Configuration Sheet" .
2-2.	Token reacquisition	To reacquire the token when it expires.
2-3.	Acquisition of file list to download (FLEX data)	To check the list of files to download.
2-4.	Data download (FLEX data)	To download various data from the bucket.
2-5.	Acquisition of file list to download (Specifications for FLEX Historical)	To check the list of files to download about the FLEX specifications.
2-6.	Data download (Specifications for FLEX Historical)	To download various data from the bucket about the FLEX specifications.

# 2-1. Authentication/Token acquisition

- (1) Windows PowerShell (HTTP request)

## Execution screen

Command >

```
> Invoke-WebRequest https://<Service domain>/user_admin/auth/login `
> -Headers @{"Content-type"="application/json"} `
> -Method Post `
> -Body '{"userName":"<user ID>","password":"<password>"}' `
> | Select-Object -ExpandProperty Content
```

Result >

```
{"idToken":
"eyJraWQiOiJYNFVidWNRR2NpUEQ2K21NQ3BqaGhuSDdaXC9mbkhpZHN
. . .
DRq7okmoco0MdMwifuvBp235G886-9-07IBA3imHH7zzSACVBsA",
"refreshToken":
"eyJjdHkiOiJKV1QiLCJlbmMiOiJBMjU2R0NNliwiYWxnIjoiiUINBLU9BRV
. . .
GGumXKwt0QIHpyDavmih5wg_sp3UA.0U69OlaVSTCfWvRjxJj-nA",
"expiresIn" 3600}
```

## Operation details




[Command]

```
> Invoke-WebRequest
https://<Service domain※1>/user_admin/auth/login
<Parameters>
-Headers @{"Content-type"="application/json"}
-Method Post
-Body '{
  "userName":"<User ID※1>"
  ,"password":"<password※1>"
}'
```

```
<pipeline : Display all [Content]>
| Select-Object -ExpandProperty Content
```

※1:Please check the setting value of "Configuration Sheet"

[result]

-  idToken : Token used when issuing API
-  refreshToken : Refresh token used in token reacquisition
-  expiresIn : validity period (3600 seconds)

[Recommendation: Variableization]

```
$Token = "
eyJraWQiOiJYNFVidWNRR2NpUEQ2K21NQ3BqaGhuSDdaXC9
. . .
7okmoco0MdMwifuvBp235G886-9-07IBA3imHH7zzSACVBsA"
```

# 2-2. Token reacquisition

- (1) Windows PowerShell (HTTP request)

## Execution screen

Command >

```
> Invoke-WebRequest https://<Service domain>/user_admin/auth/refresh `
> -Headers @{"Content-type"="application/json"} `
> -Method Post `
> -Body '{"refreshToken": "<refresh Token>"}' `
> | Select-Object -ExpandProperty Content
```

Result >

```
{"idToken":
"eyJraWQiOiJYNFVidWNRR2NpUEQ2K21NQ3BqaGhuSDdaXC9mbkhpZHNHcXJ2Y1Vx
. . .
RFXJS6zbF6eDdgesc69UeyvJpdsDT8HTL7XNzwIRivMWI7xVMkG82r2s7WMEPEqw",
"expiresIn": 3600}
```

## Operation details

[Command]

- Invoke-WebRequest  
https://<Service domain>/user\_admin/auth/refresh  
<Parameters>
  - Headers @{"Content-type"="application/json"}
  - Method Post
  - Body '{"refreshToken": "<RefreshToken※2>"}'

<pipeline : Display all [Content]>  
| Select-Object -ExpandProperty Content

※2: RefreshToken obtained by Authentication/Token acquisition

[Result]

- ■ idToken : Token used when issuing API
- ■ expiresIn : validity period (3600 seconds)



# 2-3. Acquisition of file list to download (FLEX data)

- (1) Windows PowerShell (HTTP request)

## Execution screen

Command >

```
> Invoke-WebRequest https://<Service domain>/flex/list_date `
> -Headers @{"Authorization"="<ID Tokne>","Content-type"="application/json"} `
> -Method Post `
> -Body '{"getDate":"<Date of the data>"}'
> | Select-Object -ExpandProperty Content `
> | ConvertFrom-Json
```

```
(Reference) Recommendation: Variableization >
>> -Headers @{"Authorization"=$idToken;"Content-
```

Result >

```
{"lists": [
{"no": 1, "path": "dataservice-flex-bucket/2021/03/13/", "size": "0", "lastModified":
"2021-03-15"},
{"no": 2, "path": "20210313_1_001.pcap.gz",
"size": "502,863,560", "lastModified": "2021-03-15"},
. . .
{"no": 90, "path": "20210313_2_068.pcap.gz",
"size": "360,163,085", "lastModified": "2021-03-15"},
{"no": 91, "path": "20210313_2_090.pcap.gz",
"size": "139,592", "lastModified": "2021-03-15"}]}
```

## Operation details

[Command]

```
➤ Invoke-WebRequest
https://<Service domain>/flex/list_date
<Parameters>
-headers @{
  "Authorization"="<ID Token※3>"
  ;"Content-type"="application/json"}
-Method Post
-Body '{"getDate":"<Date of the data※4>"}'
```

```
<pipeline : Display all [Content]>
| Select-Object -ExpandProperty Content
```

※3:idToken obtained by Authentication/Token acquisition  
※4:YYYYMMDD

[Result]

```
no:Serial number
path:Filepath
size:Filesize
lastModified>Last Modified Date
```

# 2-4. Data download (FLEX data)

- (1) Windows PowerShell (HTTP request)

## Execution screen

Command >

```
> Invoke-WebRequest https://<Service domain>/flex/download `
> -Headers @{"Authorization"="<ID Token>";"Content-type"="application/json"} `
> -Method Post `
> -Body '{"fileName": "<download file ※4>","getDate": "<Date of the data※5>"}' `
> | Select-Object -ExpandProperty Content
```

Result >

```
{"path":
"dataservice-flex-bucket/2021/03/13/20210313_1_001.pcap.gz",
"url":
"https://dataservice-flex-
bucket.s3.amazonaws.com/2021/03/13/20210313_1_001.pcap.gz
. . .
0cc1b78629867066e48f24f18138aa88eb8901b92209ff2fa1e98d9c118b8ec6"}
```

(Reference) Command : download >

```
> Invoke-WebRequest -ContentType "multipart/form-data" `
>> -Method GET `
>> -Uri "<signed URL>" `
>> -OutFile "<download file name>"
```

## Operation details

[Command]

```
➤ Invoke-WebRequest https://<Service domain>/flex/download
<Parameters>
  -Headers @{
    "Authorization"="<ID Token※3>"
    ;"Content-type"="application/json"}
  -Method Post
  -Body '{
    "fileName": "<download file※4>"
    ,"getDate": "<Date of the data※5>"
  }'
```

```
<pipeline : Display all [Content]>
| Select-Object -ExpandProperty Content
```

※3: idToken obtained by Authentication/Token acquisition  
※4: YYYYMMDD\_X\_NNN.pcap.gz  
YYYYMMDD: System date for creating the PCAP file  
X: Recorded FLEX line number (1 or 2)  
NNN: Recorded multicast group number  
※5: YYYYMMDD

[Result]

```
➤ path : bucket/folder/file
➤ url : Signed URL (download only)
```

[ (Reference) Command : download]

```
➤ Invoke-WebRequest -ContentType "multipart/form-data"
<Parameters>
  -Method GET
  -Uri "<Signed URL>"
  -OutFile "<download file name>"
```

## 2-5. Acquisition of file list to download (Specifications for FLEX Historical)

### ● (1) Windows PowerShell (HTTP request)

#### Execution screen

Command >

```
> Invoke-WebRequest https://<Service domain>/flex/list_connection_spec `
> -Headers @{"Authorization"="<ID Token>";"Content-type"="application/json"} `
> -Method Post `
> -Body '{} `
> | Select-Object -ExpandProperty Content
```

```
(Reference) Recommendation: Variablezation >
>> -Headers @{"Authorization"=$idToken;"Content-
```

Result >

```
{"lists": [
{"no": 1, "fileName": "UpdateHistory_SpecificationDocuments.pdf", "size": "3,163,154",
"version": "change history", "lastModified": "2021-11-11"},
{"no": 2, "fileName": "FULL_E_20210726.zip", "size": "3,075,881", "version": "version
17.5", "language": "English", "lastModified": "2021-11-09"},
{"no": 3, "fileName": "Standard_E_20210726.zip", "size": "3,369,059", "version":
"version 17.5", "language": "English", "lastModified": "2021-11-09"},
{"no": 4, "fileName": "FULL_J_20210726.zip", "size": "3,286,391", "version": "version
17.5", "language": "Japanese", "lastModified": "2021-11-09"},
{"no": 5, "fileName": "Standard_J_20210726.zip", "size": "4,476,708", "version": "version
17.5", "language": "Japanese", "lastModified": "2021-11-09"}
]}
```

#### Operation details

[Command]

```
➤ Invoke-WebRequest https://<Service domain>
/flex/list_connection_spec
<Parameters>
-headers @{
    "Authorization"="<ID Token※3>"
    ;"Content-type"="application/json"}
-Method Post
-Body '{}'
```

```
<pipeline1 : Display all [Content]>
| Select-Object -ExpandProperty Content
```

※3:idToken obtained by Authentication/Token acquisition

[Result]

```
➤ no:Serial number
fileName:FileName
size:Filesize
version:Version
language:Japanese or English
lastModified>Last Modified Date
```

# 2-6. Data download (Specifications for FLEX Historical)

- (1) Windows PowerShell (HTTP request)

## Execution screen

Command >

```
> Invoke-WebRequest https://<Service domain>/flex/download_connection_spec `
> -Headers @{"Authorization"="<ID Token>";"Content-type"="application/json"} `
> -Method Post `
> -Body '{"fileName":<download file>,"version":<version>,"language":<language>}' `
> | Select-Object -ExpandProperty Content
```

Result >

```
{"path": "dataservice-flex-bucket/ConnectionSpec/version
17.4/Japanese/Full_J_20210517.zip",
"url": "https://dataservice-flex-bucket.s3.amazonaws.com/ConnectionSpec/
. . .
0a6f172196097b21b756c460e016b1be9af3710342b716cb17763519cb6cc4fb"}
```

```
(Reference) Command : download >
> Invoke-WebRequest -ContentType "multipart/form-data" `
>> -Method GET `
>> -Uri "<signed URL>" `
>> -OutFile "<download file name>"
```

## Operation details

[Command]

```
➤ Invoke-WebRequest https://<Service domain※>/flex
/download_connection_spec
<Parameters>
-headers @{
  "Authorization"="<ID Token※3>"
  ;"Content-type"="application/json"}
-Method Post
-Body '{
  "fileName":<download file※4>"
  ,"version":<version※5>"
  ,"language":<la※6>}'
```

```
<pipeline : Display all [Content]>
| Select-Object -ExpandProperty Content
```

※3: idToken obtained by Authentication/Token acquisition

※4: YYYYMMDD\_X\_NNN.pcap.gz

YYYYMMDD: System date for creating the PCAP file

X: Recorded FLEX line number (1 or 2)

NNN: Recorded multicast group number

※5: file version

※6: language (Japanese or English)

[Result]

➤   path : bucket/folder/file

➤   url : Signed URL (download only)

# 3. Data acquisition method using cURL



# 3. Data acquisition method using cURL

## ■ Outline

➤ This section describes the specific operation procedure using cURL.  
The outline of the manual is as follows.

No.	Process	Description
3-1.	Authentication/Token acquisition	To acquire authentication token used for API matching by using the user ID and password registered in the "Configuration Sheet".
3-2.	Token reacquisition	To reacquire the token when it expires.
3-3.	Acquisition of list to download (FLEX data)	To check the list of files to download.
3-4.	Data download (FLEX data)	To download various data from the bucket.
3-5.	Acquisition of file list to download (Specifications for FLEX Historical)	To check the list of files to download about the FLEX specifications.
3-6.	Data download (Specifications for FLEX Historical)	To download various data from the about the FLEX specifications.

# 3-1. Authentication/Token acquisition

- (1) cURL (HTTP request)

## Execution screen

Command >

```
> $ curl https://<Service domain>/user_admin/auth/login ¥  
> -H "Content-type: application/json" ¥  
> -X POST ¥  
> -d '{"userName":"<user ID> ","password":"<password>"}'
```

Result >

```
{"idToken":  
"eyJraWQiOiJYNFVidWNRR2NpUEQ2K21NQ3BqaGhuSDdaXC9mbkhpZHN  
...  
DRq7okmoco0MdMwifuvBp235G886-9-07IBA3imHH7zzSACVBsA",  
"refreshToken":  
"eyJjdHkiOiJKV1QiLCJlbmMiOiJBMjU2R0NNIiwiaWF0IjoiUINBLU9BRV  
...  
GGumXKwt0QIHpyDavmih5wg_sp3UA.0U69OlaVSTCfWvRjxJj-nA",  
"expiresIn": 3600}
```

## Operation details

[Command]

- curl https://<Service domain※1>/user\_admin/auth/login  
<Parameters>
  - H "Content-type: application/json"
  - X POST
  - d '{  
    "userName":"<User ID※1>"  
    ,"password":"<password※1>"}'

<pipeline : Display all [Content]>  
| Select-Object -ExpandProperty Content

※1:Please check the setting value of "Configuration Sheet"

[result]

- ■ idToken : Token used when issuing API
- ■ refreshToken : Refresh token used in token reacquisition
- ■ expiresIn : validity period (3600 seconds)

[Recommendation: Variableization]

```
$Token = "  
eyJraWQiOiJYNFVidWNRR2NpUEQ2K21NQ3BqaGhuSDdaXC9  
...  
7okmoco0MdMwifuvBp235G886-9-07IBA3imHH7zzSACVBsA"
```

# 3-2. Token reacquisition

- (1) cURL (HTTP request)

## Execution screen

Command >

```
> $ curl https://<Service domain>/user_admin/auth/refresh ¥  
> -H "Content-type: application/json" ¥  
> -X POST ¥  
> -d '{"refreshToken": "<refresh Token※2>"}'
```

Result >

```
["idToken":  
"eyJraWQiOiJYNFVidWNRR2NpUEQ2K21NQ3BqaGhuSDdaXC9mbkhpZHNHcXJ2Y1Vx  
.  
.  
.  
RFXJS6zbF6eDdgesc69UeyvJpdsDT8HTL7XNzwIRivMWI7xVMkG82r2s7WMEPEqw",  
"expiresIn": 3600}
```

## Operation details

[Command]

- curl https://<Service domain>/user\_admin/auth/refresh  
<Parameters>
  - H "Content-type: application/json"
  - X POST
  - d '{"refreshToken": "<RefreshToken※2>"}'

※2: RefreshToken obtained by Authentication/Token acquisition

[Result]

- ■ idToken : Token used when issuing API
- ■ expiresIn : validity period (3600 seconds)



# 3-3. Acquisition of file list to download

- (1) cURL (HTTP request)

## Execution screen

Command >

```
> $ curl https://<Service domain>/flex/list_date
> -H "Content-type: application/json"
> -H "Authorization: <ID Token>"
> -X POST
> -d '{"getDate": "<Date of the data>"'
```

```
(Reference) Recommendation: Variableization >
>> -H "Authorization: $idToken"
```

Result >

```
{
  "lists": [
    {
      "no": 1,
      "path": "dataservice-flex-bucket/2021/03/13/",
      "size": "0",
      "lastModified": "2021-03-15"
    },
    {
      "no": 2,
      "path": "dataservice-flex-bucket/2021/03/13/20210313_1_001.pcap.gz",
      "size": "502,863,560",
      "lastModified": "2021-03-15"
    },
    . . .
    {
      "no": 90,
      "path": "dataservice-flex-bucket/2021/03/13/20210313_2_068.pcap.gz",
      "size": "360,163,085",
      "lastModified": "2021-03-15"
    },
    {
      "no": 91,
      "path": "dataservice-flex-bucket/2021/03/13/20210313_2_090.pcap.gz",
      "size": "139,592",
      "lastModified": "2021-03-15"
    }
  ]
}
```

## Operation details

[Command]

- curl https://<Service domain>/flex/list\_date  
<Parameters>
  - H "Content-type: application/json"
  - H "Authorization: <ID Token※3>"
  - X POST
  - d '{"getDate": "<Date of the data※4>"'

※3: idToken obtained by Authentication/Token acquisition  
※4: YYYYMMDD

[Result]

- Display of acquisition target on specified date
  - no: Serial number
  - path: Filepath
  - size: Filesize
  - lastModified: Last Modified Date

[Recommendations: json formatting]

- Since it is in json format, readability can be improved by adding display formatting to the above input command in the pipeline.  
<Example of display formatting using python>  
| python -m json.tool

# 3-4. Data download

- (1) cURL (HTTP request)

## Execution screen

Command >

```
> $ curl https://<Service domain>/flex/download
> -H "Content-type: application/json"
> -H "Authorization: <ID Token>"
> -X POST
> -d '{"fileName":"<download file>","getDate":"<Date of the data>"}'
```

Result >

```
"path":
"dataservice-flex-bucket/2021/03/13/20210313_1_001.pcap.gz",
"url":
"https://dataservice-flex-
bucket.s3.amazonaws.com/2021/03/13/20210313_1_001.pcap.gz
. . .
0cc1b78629867066e48f24f18138aa88eb8901b92209ff2fa1e98d9c118b8ec6"}"
```

(Reference) Command : download >  
\$ curl -X GET "[signed URL]" >[download file]

## Operation details

[Command]

```
➤ curl https://<Service domain>/flex/download
<Parameters>
-H "Content-type: application/json"
-H "Authorization: <ID Token※3>"
-X POST
-d '{
  "fileName":"<download file>"
  ,"getDate":"<Date of the data※4>"
}'
```

※3:idToken obtained by Authentication/Token acquisition

※4:YYYYMMDD

[Result]

```
➤ □ path : bucket/folder/file
➤ □ url : Signed URL (download only)
```

# 3-5. Acquisition of file list to download (Specifications for FLEX Historical)

- (1) cURL (HTTP request)

## Execution screen

Command >

```
> $ curl https://<Service domain>/flex/list_connection_spec
> -H "Content-type: application/json"
> -H "Authorization: <ID Token※3>"
> -X POST
> -d '{}'
```

```
(Reference) Recommendation: Variablezation >
>> -H "Authorization: $idToken"
```

Result >

```
{"lists": [
{"no": 1, "fileName": "UpdateHistory_SpecificationDocuments.pdf", "size": "3,163,154",
"version": "change history", "lastModified": "2021-11-11"},
{"no": 2, "fileName": "FULL_E_20210726.zip", "size": "3,075,881", "version": "version
17.5", "language": "English", "lastModified": "2021-11-09"},
{"no": 3, "fileName": "Standard_E_20210726.zip", "size": "3,369,059", "version":
"version 17.5", "language": "English", "lastModified": "2021-11-09"},
{"no": 4, "fileName": "FULL_J_20210726.zip", "size": "3,286,391", "version": "version
17.5", "language": "Japanese", "lastModified": "2021-11-09"},
{"no": 5, "fileName": "Standard_J_20210726.zip", "size": "4,476,708", "version": "version
17.5", "language": "Japanese", "lastModified": "2021-11-09"}
]}
```

## Operation details

[Command]

- curl https://<Service domain>/flex/list\_connection\_spec <Parameters>
  - H "Content-type: application/json"
  - H "Authorization: <ID Token※3>"
  - X POST
  - d '{}'

※3:idToken obtained by Authentication/Token acquisition

[Result]

- Display of acquisition target on specified date
  - no:Serial number
  - fileName:Filepath
  - size:Filesize
  - version:version
  - language:Language (Japanese or English)
  - lastModified>Last Modified Date

[Recommendation: json formatting]

- Since it is in json format, readability can be improved by adding display formatting to the above input command in the pipeline.
  - <Display shaping by python>
    - | python -m json.tool

# 3-6. Data download (Specifications for FLEX Historical)

- (1) cURL (HTTP request)

## Execution screen

Command >

```
> $ curl https://<Service domain>/flex/download_connection_spec
> -H "Content-type: application/json"
> -H "Authorization: <ID Token※3>"
> -X POST
> -d '{"fileName":"<download ffile>","version":"<version>","language":"<language>"}
```

Result >

```
{ "path":
"dataservice-flex-bucket/2021/03/13/20210313_1_001.pcap.gz",
"url"
"https://dataservice-flex-
bucket.s3.amazonaws.com/2021/03/13/20210313_1_001.pcap.gz
. . .
0cc1b78629867066e48f24f18138aa88eb8901b92209ff2fa1e98d9c118b8ec6"}
```

(Reference) Command : download >  
\$ curl -X GET "[signed URL]" >[download file]

## Operation details

[Command]

```
curl https://<service domain>/flex/download_connection_spec
<Parameters>
-H "Content-type: application/json"
-H "Authorization: <ID Token※3>"
-X POST
-d '{
  "fileName":"<download file>"
  ,"version":"<version※5>"
  ,"language":"<language※6>"
}'
```

※3: idToken obtained by Authentication/Token acquisition

※5: file version

※6: language (Japanese or English)

[Result]

- path : bucket/folder/file
- url : Signed URL (download only)