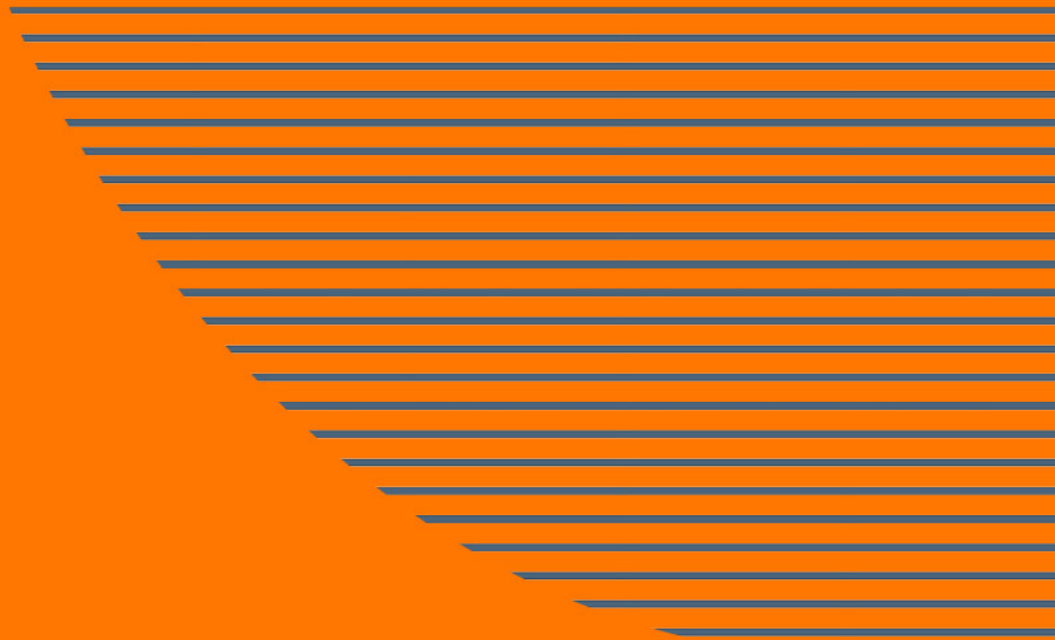


# atm Digital

## ClearPass Onboard API の利用サンプル

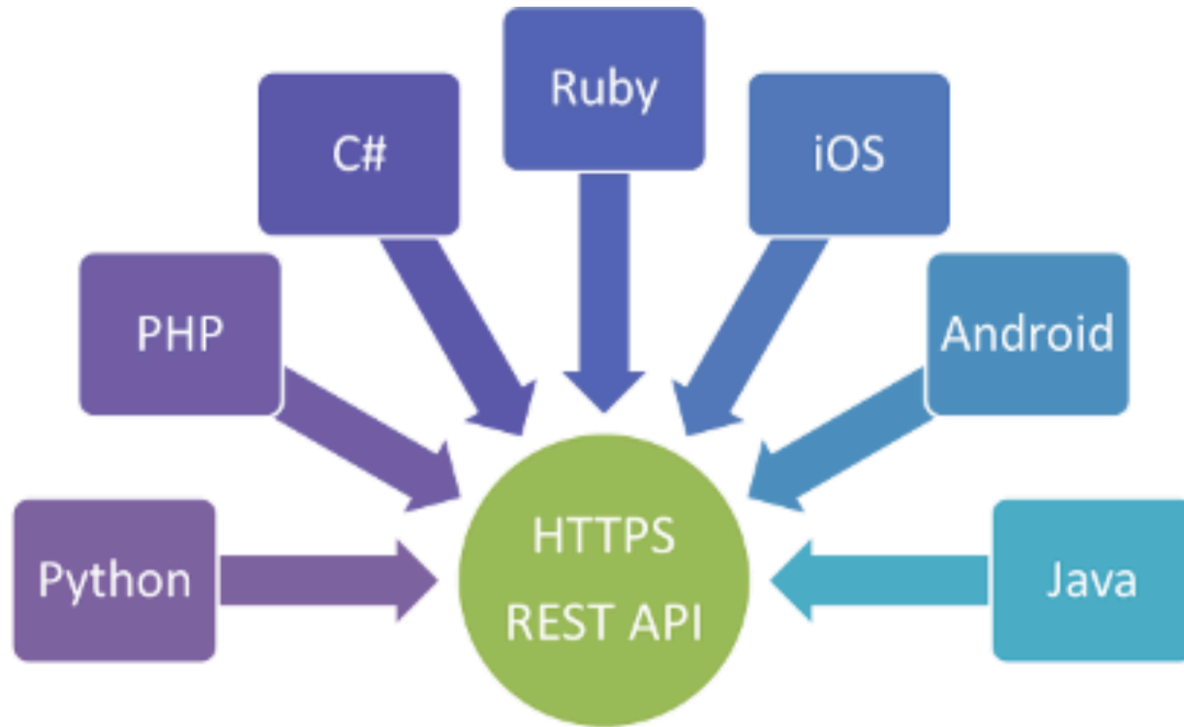
Shoji Iwabuchi

# API 利用の準備

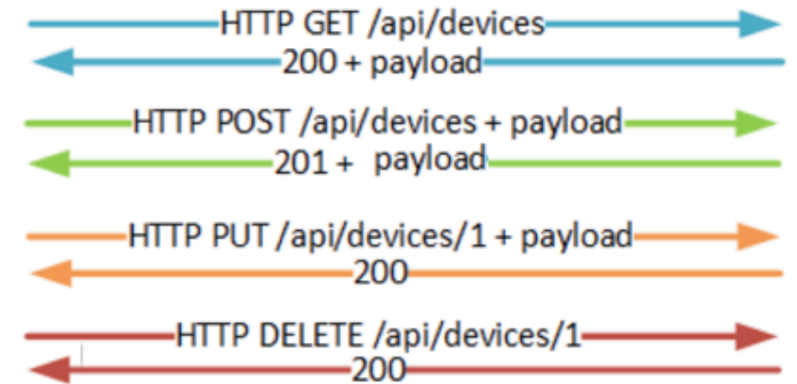


REST API は HTTP を利用したコール方法なので、あらゆるツールから API をコール可能

※この資料では、Postman を利用して ClearPass Guest (Onboard) の REST API をコールする方法を説明



### methods



# ClearPass Onboard で API Client を作成

aruba

ClearPass

ゲスト

Onboard

構成

管理

ここから開始

AirGroupサービス

APIサービス

ここから開始

API Clients

API Explorer

SOAP Webサービス

データ保持

Extensions

構成のインポート

オペレーターログイン

プラグインマネージャー

サポート

ログアウト

## Create API Client

Use this form to create a new API client.

Create API Client

\* Client ID:

API Client 1

The unique string identifying this API client. Use this value in the OAuth2 "client\_id" parameter.

説明:

Use this field to store comments or notes about this API client.

有効状態:

☒ Enable API client

\* オペレータ プロファイル:

Super Administrator

The operator profile applies role-based access control to authorized OAuth2 clients. This determines what API objects and methods are available for use.

\* Grant Type:

Client credentials (grant\_type=client\_credentials)

Only the selected authentication method will be permitted for use with this client ID.

Client Secret:

8uV...nWx

Use this value in the OAuth2 "client\_secret" parameter. NOTE: This value is encrypted when stored.

Access Token Lifetime:

1000

週間

Specify the lifetime of an OAuth2 access token.

Create API Client

キャンセル

\* 必須フィールド

[Back to API clients](#)

[Back to API services](#)

適宜設定



# Access Token を生成

arubaClearPass

ゲスト

Onboard

構成

管理

ここから開始

AirGroupサービス

APIサービス

ここから開始

API Clients

API Explorer

SOAP Webサービス

データ保持

Extensions

構成のインポート

オペレーターログイン

プラグインマネージャー

サポート

ログアウト

API Clients

The API clients you have defined are listed below.

フィルタ:

Client ID	Grant Types	Access Token	オペレータ プロファイル
API Client 1	client_credentials	1000 weeks	Super Administrator
<div>編集 無効化 削除 Generate Access Token</div>			
S	client_credentials	10000 weeks	Super Administrator

arubaClearPass

ゲスト

Onboard

構成

管理

ここから開始

AirGroupサービス

APIサービス

ここから開始

API Clients

API Explorer

SOAP Webサービス

データ保持

Extensions

構成のインポート

オペレーターログイン

プラグインマネージャー

サポート

ログアウト

API Clients

The API clients you have defined are listed below.

フィルタ:

Client ID	Grant Types	Access Token	オペレータ プロファイル
API Client 1	client_credentials	1000 weeks	Super Administrator

Generated an access token for client\_id 'API Client 1'.

OAuth2 Access Token

HTTP Authorization Bearer 70d4...07

Expires 金曜日, 2040, 9:21 午前

詳細: 表示

Developer Quick Start To

curl -i

Refer to the API Explorer for documentation and to try out API calls from your browser.

この “Bearer ~” をメモする



# API Explorer



# API Explorer (簡単に API Call を試せるツール)

aruba

ClearPass

API Explorer

aruba

ゲスト

Onboard

構成

管理

ここから開始

AirGroupサービス

APIサービス

ここから開始

API Clients

API Explorer

SOAP Web Services

データ保持

Extensions

構成のインポート

オペレーターログイン

プラグインマネージャー


サポート

ログアウト

API	Services	Versions
ApiFramework	ApiAuthentication, ApiClient	v1
Authentication	AuthMethod	v1
Certificates	CertSignRequest, CertTrustList, CertTrustListDetails, SelfSignedCert, ServerCert, ServiceCert	v1
Dictionaries	Attribute, ContextServerAction, Fingerprint	v1
DigitalPass	DigitalPass	v1
Events	LoginAudit, SystemEvents	v1
Extension	Instance, InstanceConfig, InstanceLog, InstanceReinstall, InstanceRestart, InstanceStart, InstanceStop, Store	v1
ExternalServers	EndpointContextServer, FileBackupServer, SyslogExportFilter, SyslogTarget	v1
GuestManager	ActiveSession, ActiveSessionDisconnect, ActiveSessionReauthorize, Configuration, Device, Guest, GuestDigitalPass, GuestReceipt, GuestSponsor, PrintTemplate, RandomPassword, SMSReceipt, SMTPReceipt, WebLogin	v1
Identity	Endpoint, LocalUser, LocalUserPasswordPolicy, Role, StaticHostList	v1
Insight	Endpoint	v1
MessagingServices	EmailSend, Messaging	v1
Network	NetworkDevice, NetworkDeviceList	v1
Onboard	Certificate, CertificateChain, CertificateExport, CertificateImport, CertificateNew, CertificateReject, CertificateRequest, CertificateRevoke, CertificateSign, Device, User	v1
OnGuard	GlobalSettings, Settings	v1
OperatorLogins	GetAccount, GetPrivileges, ListAllPrivileges, OperatorProfile	v1

Certificate を選択

# API Client を作成

 ClearPass

## API Explorer - Onboard-v1

[Back to API Explorer](#)

Authorization: Bearer 70d4 [REDACTED] 07

**Certificate : Manage Onboard certificates** [Get a list of certificates](#)

**GET** /certificate

**Implementation Notes**  
Get a list of certificates.  
[More about JSON filter expressions](#)

**Response Class**  
Model | [Model Schema](#)

**CertificateList {**  
  \_embedded ([CertificateItems](#)): Object containing result,  
  \_links ([HalLinks](#)): Object containing metadata,  
  count ([integer](#), *optional*): Total number of items matching the filter; retu  
}

**CertificateItems {**  
  items ([array\[Certificate\]](#)): List of items matching the filter  
}

**Certificate {**  
  id ([integer](#), *optional*): Numeric ID of the certificate,  
  action\_notification\_sent\_at ([string](#), *optional*): Time of the last check for expiration actions,  
  ca\_id ([integer](#), *optional*): Numeric ID of the Onboard certificate authority; null if not an Onboard-issued certificate,  
  ca\_name ([string](#), *optional*): Name of the Onboard certificate authority; null if not an Onboard-issued certificate,

メモしておいた  
“Bearer ~ “  
をセットAPI Call する際の  
パラメータや戻り値など  
説明が書いてある



# Certificate を検索してみる

next (string, optional): ONE of next page of results  
}

Response Content Type

### Parameters

Parameter	Value	Description	Parameter Type	Data Type
filter	<input style="border: 2px solid orange;" type="text" value='{"subject_common_name":"tac-005"}'/>	JSON filter expression specifying the items to return	query	string
sort	<input type="text" value="+id"/>	Sort ordering for returned items	query	string
offset	<input type="text" value="0"/>	Zero based offset to start from	query	integer
limit	<input type="text" value="25"/>	Maximum number of items to return (1 - 1000)	query	integer
calculate_count	<input type="text" value="false (default)"/>	Whether to calculate the total item count	query	boolean

### Error Status Codes

HTTP Status Code	Reason
200	OK
401	Unauthorized
403	Forbidden
406	Not Acceptable
415	Unsupported Media Type
422	Unprocessable Entity

**検索条件をセット  
(今回はユーザー名で検索)**

Try it out!



# 実行結果

## Parameters

Parameter	Value	Description	Parameter Type	Data Type
filter	<input data-bbox="422 178 838 204" type="text" value='{"subject_common_name":"tac-005"}'/>	JSON filter expression specifying the items to return	query	string
sort	<input data-bbox="422 235 838 261" type="text" value="+id"/>	Sort ordering for returned items	query	string
offset	<input data-bbox="422 278 838 304" type="text" value="0"/>	Zero based offset to start from	query	integer
limit	<input data-bbox="422 321 838 347" type="text" value="25"/>	Maximum number of items to return (1 - 1000)	query	integer
calculate_count	<input data-bbox="422 378 563 404" type="button" value="false (default)"/>	Whether to calculate the total item count	query	boolean

## Error Status Codes

HTTP Status Code	Reason
200	OK
401	Unauthorized
403	Forbidden
406	Not Acceptable
415	Unsupported Media Type
422	Unprocessable Entity

[Try it out!](#) [Hide Response](#)

## Request URL

[https://10.215.4.231:443/api/certificate?filter=%7B%22subject\\_common\\_name%22%3A%22tac-005%22%7D&sort=%2Bid&offset=0&limit=25&calculate\\_count=false](https://10.215.4.231:443/api/certificate?filter=%7B%22subject_common_name%22%3A%22tac-005%22%7D&sort=%2Bid&offset=0&limit=25&calculate_count=false)

## Response Body

```
{
  "_links": {
    "self": {
      "href": "https://10.215.4.231/api/certificate?calculate_count=false&offset=0&limit=25&sort=%2Bid&filter=%7B%22subject_common_name%22%3A%22tac-005%22%7D"
    },
    "first": {
      "href": "https://10.215.4.231/api/certificate?calculate_count=false&offset=0&limit=25&sort=%2Bid&filter=%7B%22subject_common_name%22%3A%22tac-005%22%7D"
    }
  },
  "_embedded": {
    "items": [
      {
        "id": 620,
        "action_notification_sent_at": null,
        "ca_id": 2,
        "ca_name": "ANTAC Local Certificate Authority - Lab8 page2",
        "certificate_sub_type": null,
        "certificate_type": "tls-client",
        "certificate_version": 3,
        "csr_rejected_at": null,

```

Request URL は  
Postman(後述)で利用するので  
確認しておく

成功すると  
検索結果が表示される



# Postman

The background of the image features a vibrant orange and coral color palette. Large, overlapping circular shapes in these colors create a dynamic, abstract composition. In the lower right area, a series of thin, horizontal blue lines are stacked, creating a sense of depth and movement, reminiscent of a stylized wing or a modern architectural element.

# POSTMAN

手軽に Rest API Call を作成できるツール

<https://www.postman.com/>

操作方法の詳細や利用規約につきましては、POSTMAN のサイトをご参照ください



# API Call を作成してみる (1)

The screenshot shows the Postman API Explorer interface. The left sidebar displays a collection named 'ClearPass' with 3 requests. The main panel shows a GET request to the endpoint `https://10.215.4.231:443/api/certificate?filter={"subject_common_name":"tac-005"}`. The 'Query Params' section is expanded, showing a table with one parameter: 'filter' with the value `{"subject_common_name":"tac-005"}`. Two orange callout boxes highlight these elements.

**API Explorer で確認したアドレス**

KEY	VALUE	DESCRIPTION
<input checked="" type="checkbox"/> filter	<code>{"subject_common_name":"tac-005"}</code>	

**API Explorer で利用したフィルタ**

Footer content

# API Call を作成してみる (2)

Postman

+ New Import Runner

My Workspace Invite

Filter

History Collections APIs

+ New Collection Trash

central 2 requests

ClearPass 3 requests

Writing test scripts 4 requests

Launchp... GET Clear... GET Clear...

ClearPass-GetCertID

GET https://10.215.4.231:443/api/certificate?filter={"subject\_common\_name":"tac-005"} Send Save

Params Authorization Headers (8) Body Pre-request Script Tests Settings Cookies Code

TYPE

Bearer Token

The authorization header will be automatically generated when you send the request. [Learn more about authorization](#)

Heads up! These parameters hold sensitive data. To keep this data secure while working in a collaborative environment, we recommend using variables. [Learn more about variables](#)

Token

70d4[redacted]07

Response

API Explorer で確認したアドレス

Bearer の値をセット



# Call してみる

The screenshot shows the Postman interface with a REST client request configured. The request is a GET to `https://10.215.4.231:443/api/certificate?filter={"subject_common_name":"tac-005"}`. The response is a 200 OK with a status of 1044 ms and 4.72 KB. The response body is displayed in JSON format, showing a list of certificates.

**Request Details:**

- Method: GET
- URL: `https://10.215.4.231:443/api/certificate?filter={"subject_common_name":"tac-005"}`
- Query Params: filter ({"subject\_common\_name":"tac-005"})

**Response Details:**

- Status: 200 OK
- Time: 1044 ms
- Size: 4.72 KB

**Response Body (JSON):**

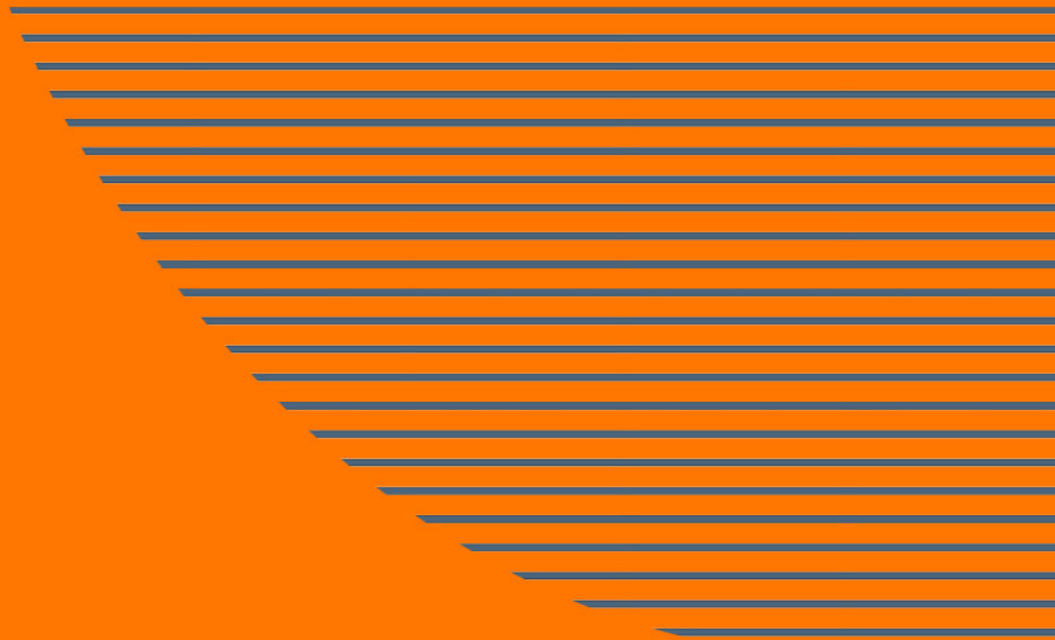
```
{
  "_links": {
    "self": {
      "href": "https://10.215.4.231/api/certificate?calculate_count=false&offset=0&limit=25&sort=%2Bic"
    },
    "first": {
      "href": "https://10.215.4.231/api/certificate?calculate_count=false&offset=0&limit=25&sort=%2Bic"
    }
  },
  "_embedded": {
    "items": [
      {
        "id": 620,
        "action_notification_sent_at": null,
        "ca_id": 2,
        "ca_name": "ANTAC Local Certificate Authority - Lab8 page2",
        "certificate_sub_type": null,
        "certificate_type": "tls-client",
        "certificate_version": 3,
        "csi_rejected_at": null,
        "has_certificate": true
      }
    ]
  }
}
```

実行結果



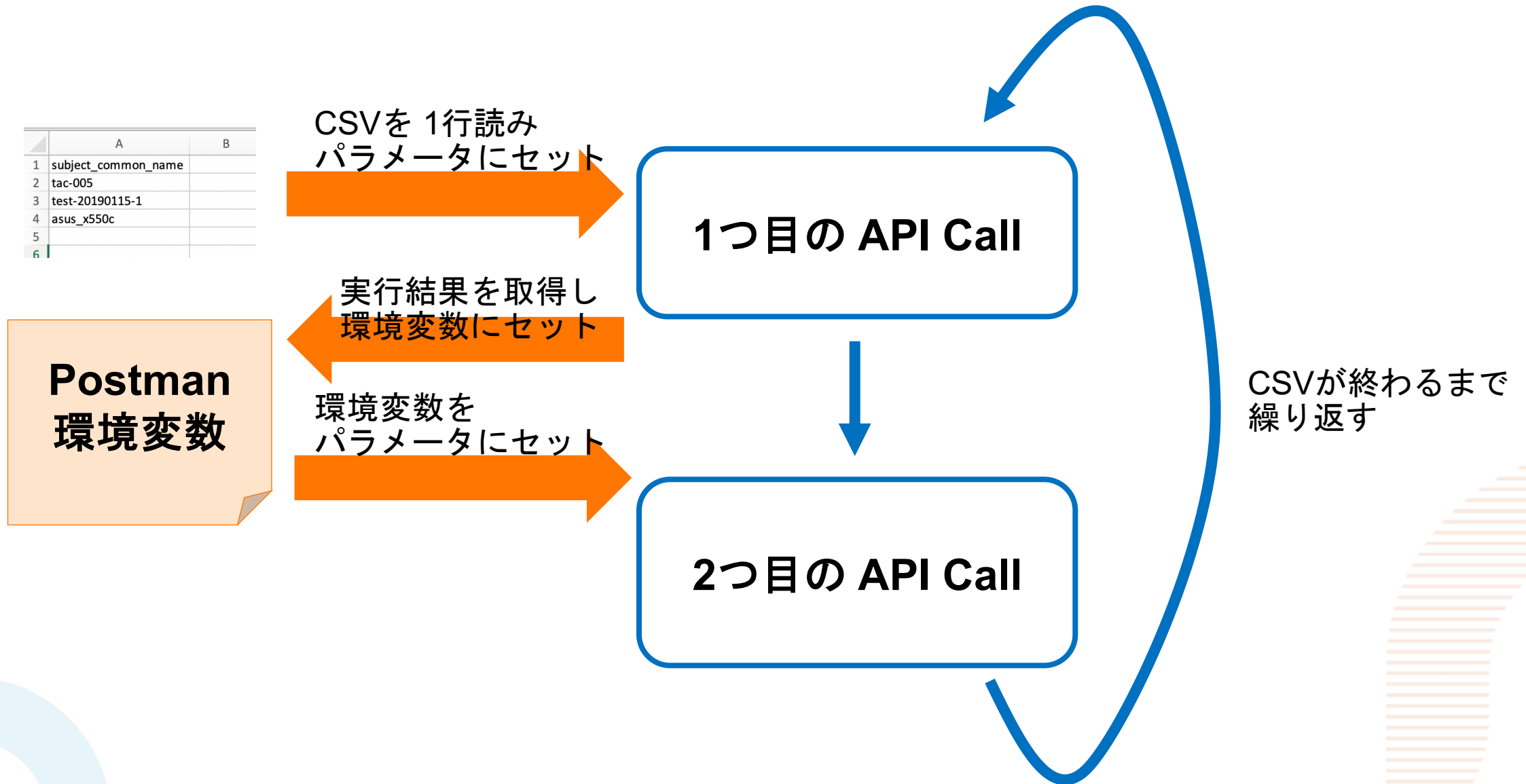
# Postman 応用

Runner で連続実行





# Postman の Runner でできること



# この Runner を応用すると、 指定した証明書に対して色々操作できる

	A	B
1	subject_common_name	
2	tac-005	
3	test-20190115-1	
4	asus_x550c	
5		
6		

**Postman  
環境変数**

CSVを 1行読み  
パラメータにセット

取得した Cert IDを  
環境変数にセット

Cert ID を  
パラメータにセット

ユーザー名から  
**Certificate** を取得  
する **API Call**

指定した Cert ID の  
**Certificate** を失効  
させる **API Call**

CSVが終わるまで  
繰り返す

# 今回は練習なので、こちらを作ってみる

	A	B
1	subject_common_name	
2	tac-005	
3	test-20190115-1	
4	asus_x550c	
5		
6		

**Postman  
環境変数**

CSVを 1行読み  
パラメータにセット

取得した Cert IDを  
環境変数にセット

Cert ID を  
パラメータにセット

ユーザー名から  
Certificate を取得  
する API Call

Cert ID から  
Certificate を取得  
する API Call

CSVが終わるまで  
繰り返す

# まず、CSV を用意

	A	B
1	subject_common_name	
2	tac-005	
3	test-20190115-1	
4	asus_x550c	
5		
6		

1行目はヘッダになる

CSV なので  
中身はテキストファイル

```
1 subject_common_name ↓
2 tac-005 ↓
3 test-20190115-1 ↓
4 asus_x550c ↓
5
```

# API Call (1)

Postman

My Workspace

ClearPass\_CertMgmt

GET https://10.215.4.231:443/api/certificate?filter={"subject\_common\_name": "{{subject\_common\_name}}"} Send Save

Params Authorization Headers (8) Body Pre-request Script Tests Settings Cookies Code

KEY	VALUE	DESCRIPTION
<input checked="" type="checkbox"/> filter	{"subject_common_name": "{{subject_common_name}}"} (highlighted)	
Key	Value	Description

Response

わかりやすい名前をつけておく

{{ }} で囲むと、  
変数の値が入る

※変数: CSV や 環境変数 でセットした値



# Tests : API Call した後に実行するスクリプト

The screenshot shows the Postman interface with a REST client request. The request is a GET call to `https://10.215.4.231:443/api/certificate?filter={"subject_common_name":"{{subject_common_name}}"}". The "Tests" tab is selected, showing the following JavaScript code:`

```
1 let jsonData = JSON.parse(responseBody);
2 let ok = responseCode.code === 200;
3 tests["Successful request"] = ok;
4 tests[jsonData._embedded.items[0].id] = 200;
5
6 if(ok) {
7   pm.environment.set("CertID", jsonData._embedded.items[0].id);
8 }
```

A callout box points to line 7, stating: **この行で環境変数にセットしている** (Setting environment variable in this line).

Below the test script, the "Response" tab shows the JSON response:

```
1 {
2   "_links": {
3     "self": {
4       "href": "https://10.215.4.231:443/api/certificate?filter={"subject_common_name":"{{subject_common_name}}"}"
5     },
6     "first": {
7       "href": "https://10.215.4.231:443/api/certificate?filter={"subject_common_name":"{{subject_common_name}}"}"
8     }
9   },
10  "_embedded": {
11    "items": [
12      {
13        "id": 620,
14        "action_notifi
```

A callout box points to the `"id": 620` value, stating: **このidが環境変数に代入されている** (This ID is assigned to the environment variable).

On the right side of the interface, there is a section titled "Test scripts are written in JavaScript, and are run after the response is received." with a link "Learn more about tests scripts". Below this, there is a "SNIPPETS" section with two options: "Get an environment variable" and "Get a global variable".

# 環境変数は、ここで確認・編集できる

The screenshot shows the Postman interface with a workspace named 'My Workspace'. A collection named 'ClearPass-CertMgmt' is selected, and a request 'ClearPass\_GetCertID' is visible. The 'Environment' tab is active, showing a table of variables:

VARIABLE	INITIAL VALUE	CURRENT VALUE
CertID	620	620

An orange box highlights the 'CertID' row. Below the table, the 'Globals' tab is active, displaying a message: 'No global variables. Global variables are a set of variables that are always available in a workspace. Learn more about globals.' A modal window is open over the 'Globals' tab, containing the following text: 'Use variables to reuse values in different places. The current value is used while sending a request and is never synced to Postman's servers. The initial value is auto-updated to reflect the current value. Change this behaviour from Settings. Learn more about variable values'.

The 'Body' tab is also visible, showing a JSON response:

```
{
  "_links": {
    "self": "...",
    "first": "...",
    "next": "..."
  },
  "_embedded": {
    "items": [
      {
        "id": 620,
        "action_notification_sent_at": null,
        "ca_id": 2,
        "ca_name": "ANTAC Local Certificate Authority - Lab8 page2",
        "certificate_sub_tone": null
      }
    ]
  }
}
```

この名前は  
Runnerで使う

Testsスクリプトの実行で  
セットされる



# API Call (2) を作成

Filter

HistoryCollectionsAPIs

+ New Collection

central

2 requests

ClearPass

3 requests

Writing test scripts

4 requests

Launchpad

GET ClearPas...

GET ClearPa...

GET ClearPas...

POST https://...

ClearPass\_CertMgmt

Examples 0

BUILD

Send

Save

GET

https://10.215.4.231:443/api/certificate?filter={"id":"{{CertID}}"}

SendSave

Params

Authorization

Headers (8)

Body

Pre-request Script

Tests

Settings

Cookies

Code

Query Params

	KEY	VALUE	DESCRIPTION	
<input checked="" type="checkbox"/>	filter	<div>{"id":"{{CertID}}"}<div>環境変数からセット</div></div>		<div>...</div> Bulk Edit
	Key	Value	Description	

Response



# API Call (2) にも、結果確認用のスクリプトを書いておく

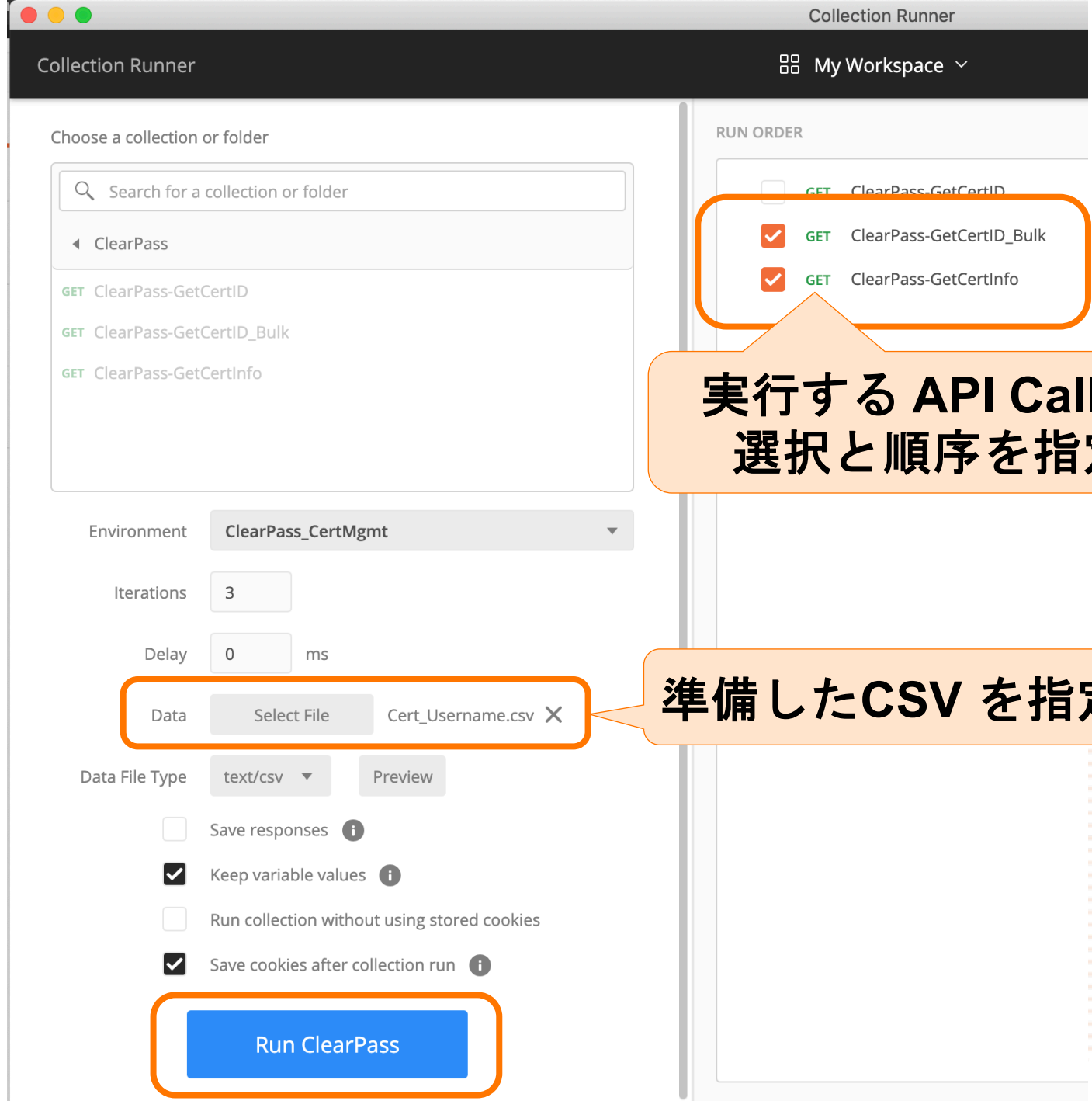
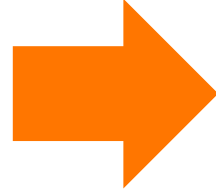
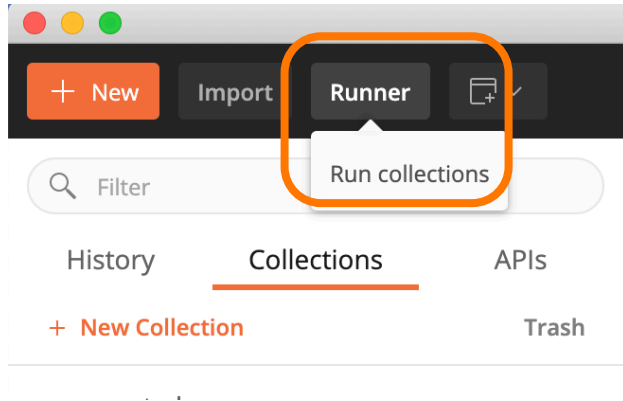
The screenshot shows the Postman application interface. On the left, the 'Collections' tab is active, showing a collection named 'Writing test scripts' with 4 requests. The main panel displays a REST client request for 'ClearPass-CertInfo' using the GET method. The URL is 'https://10.215.4.231:443/api/certificate?filter={"id":"{{CertID}}"}'. The 'Tests' tab is selected and highlighted with an orange box. The test script is written in JavaScript:

```
1 let jsonData = JSON.parse(responseBody);
2 let ok = responseCode.code === 200;
3 tests["Successful request"] = ok;
4 tests[jsonData._embedded.items[0].subject_common_name] = 200;
5
6
```

An orange callout box with the text '結果確認用のスクリプト' (Test script for result confirmation) points to the test script area. On the right, there is a sidebar with links for 'Test scripts are written in JavaScript, and are run after the response is received.', 'Learn more about tests scripts', 'SNIPPETS', 'Get an environment variable', and 'Get a global variable'.



# Runner を作成



# Runner の実行結果

The screenshot displays the 'Collection Runner' interface for a workspace named 'My Workspace'. The test suite is 'ClearPass\_CertMgmt', which was run 'just now'. The status summary shows 12 PASSED and 0 FAILED tests. The test results are organized into three iterations:

- Iteration 1:**
  - GET ClearPass-GetCertID\_Bulk https://10.215...:200 OK, 411 ms, 4.836 KB. Response: 620. Status: Successful request.
  - GET ClearPass-GetCertInfo https://10.215.4.231:443/.../ClearPass-GetCertInfo:200 OK, 237 ms, 4.794 KB. Response: tac-005. Status: Successful request.
- Iteration 2:**
  - GET ClearPass-GetCertID\_Bulk https://10.215.4.231:443/.../ClearPass-GetCertID\_Bulk:200 OK, 295 ms, 4.704 KB. Response: 575. Status: Successful request.
  - GET ClearPass-GetCertInfo https://10.215.4.231:443/.../ClearPass-GetCertInfo:200 OK, 290 ms, 4.646 KB. Response: test-20190115-1. Status: Successful request.
- Iteration 3:**
  - GET ClearPass-GetCertID\_Bulk https://10.215.4.231:443/.../ClearPass-GetCertID\_Bulk:200 OK, 380 ms, 4.865 KB. Response: 565. Status: Successful request.

Annotations on the screenshot:

- API Call (1) で Cert ID を取得**: Points to the first GET request in Iteration 1.
- API Call (2) で ユーザー名 を取得**: Points to the second GET request in Iteration 1.
- CSV 1行分の実行**: A bracket on the right side of the first two rows of Iteration 1, indicating the execution of one row of the CSV data.

Footer content: Console, 6 WARNINGS

**Thank you**

The background features a large, abstract composition of curved shapes in shades of orange and red. On the right side, there is a series of thin, horizontal blue lines that create a sense of depth and movement, resembling a stylized wing or a fan.