CITIZEN

CITIZEN XML Config Service
JavaScript Config SDK
Programming Manual

For Ver. 1.00

CITIZEN SYSTEMS JAPAN CO., LTD.

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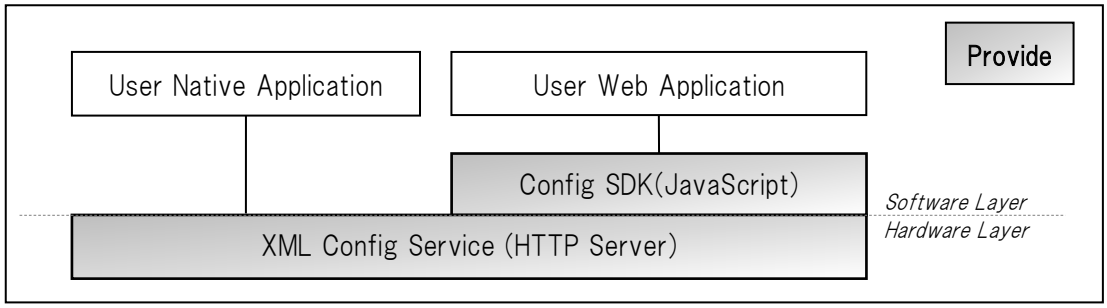
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1. Introduction

This document is a manual for programmers for CITIZEN XML Config Service.

1.1. System Overview

CITIZEN XML Config Service is provided to control to control the network settings and their acquisition without a device driver in a multi-platform environment which is not operating system dependent. Since the control method is HTTP (XML) based, can be controlled easily from a Web service environment. Furthermore, Config SDK is provided as a library for XML Config to control using JavaScript on the client side. The following shows a conceptual diagram of the provided service.



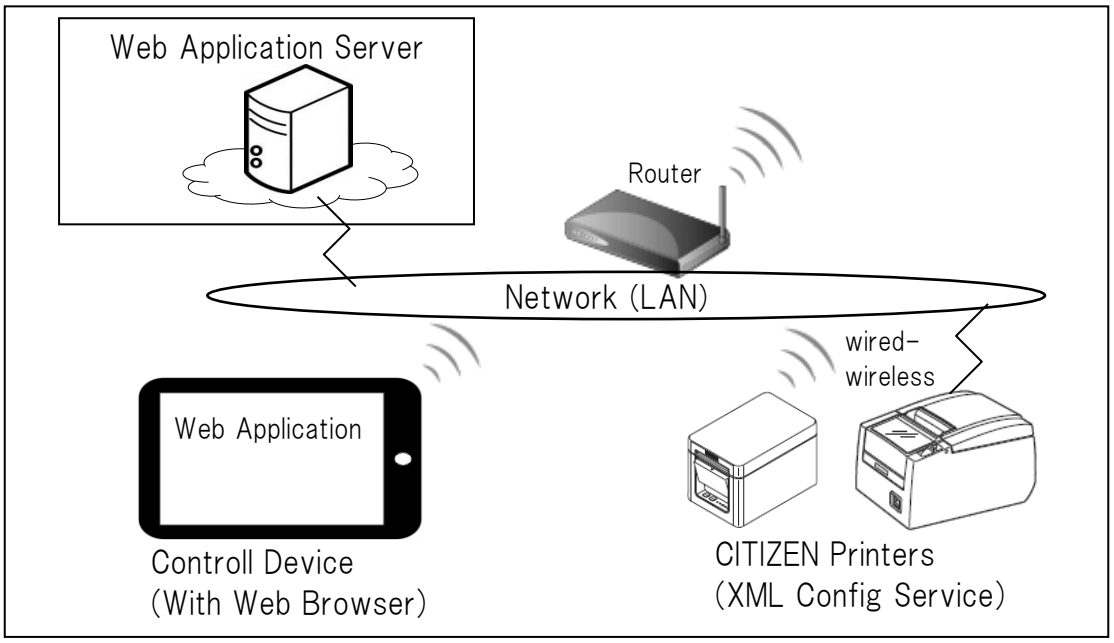
1.2. Scope of This Document

This document is intended to be a reference for developers of applications that use CITIZEN XML Config Service compatible printers.
For the control specifications for HTTP (XML) based control, refer to "2. XML Config Service Messages", "3. Setting Control Tags", "4. Get Settings Control Tags" and "5. XML Config Service Settings" in this document.
For the JavaScript SDK specifications for control from a Web service environment, refer to "6. CITIZEN JavaScript Config SDK".
For details on checking the operation of this service, refer to "7. Sample Programs".

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1.3. System Configuration Example

The following shows a system configuration example for CITIZEN XML Config Service.



1.4. Supported Printer Models

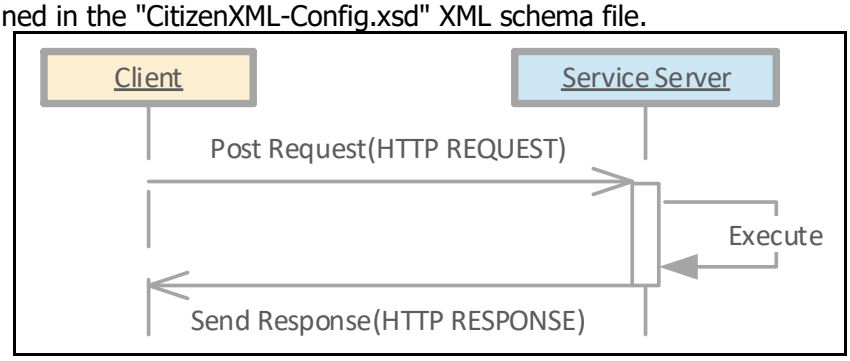
The applicable printer models of this service and the corresponding interfaces for those models are as follows.
For details on the functions of each model, refer to each instruction manual.

Applicable Printer Models	Interface
CT-E601, CT-E651, CT-S251, CT-S751, CT-S4500, CL-E300EX/303EX, CL-E321EX/331EX	Wired LAN (model number: IF2-EFX1, IF2-EFX2) Wired/Wireless LAN (model number: IF2-WFx5, IF2-WFx6)
CT-S601II/651II/801II/851II, CT-S801III/851III, CL-E720/730, CL-S400DT, CL-S400DTII/403DTII, CL-S700III/703III,	Wired LAN (model number: IF1-EFX1, IF1-EFX2) Wired/Wireless LAN (model number: IF1-WFx4, IF1-WFx6)
CL-S520/530, CL-S520II/530II, CL-S620/630, CL-S620II/630II, CL-S700/703, CL-S700II/703II,	Wired LAN (model number: IF5-EFX1)

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2. XML Config Service Messages

The service user issues a request message as an HTTP request and then receives a response message from the service as an HTTP response as shown in the figure below. Request messages and response messages are defined in the "CitizenXML-Config.xsd" XML schema file.



2.1. Request Messages

Control of the device (printer) is performed in accordance with the request messages issued from clients.

2.1.1. Transmission Method and Message Structure

Send a SOAP message using the following method for a request message.

- HTTP URL: http(s)://[IP address of this service]/xmlconfig
- HTTP method: POST
- HTTP header: Content-Type: text/xml; charset=UTF-8

In addition, Basic authentication is applied to the URL of the POST destination. The user name and password required for Basic authentication are the same as the administrator information required when logging in to Web Manager.

The structure of a request message is as follows.

2.1.2. <SetConfigRequest> Tag

Insert the setting tag within the <SetConfigRequest> tag in the request message for setting. For details on the setting tags, refer to "3. Setting Control Tags" in this document.

The structure of a request message of the SetConfigRequest tag is as follows.

```
<?xml version="1.0" encoding="UTF-8"?>
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
 <s:Body>

  <SetConfigRequest xmlns="http://www.citizen.co.jp/Config/" MajorVersion="1">
   <!-- Request ID -->
   <MessageID>a55f0b87-4bb1-94fb-a92b-dfa2913c4343</MessageID>
   <!-- Setting request -->
          .
          .
  </SetConfigRequest>

 </s:Body>
</s:Envelope>
```

<SetConfigRequest> tag
Setting request data

2.1.3. <GetConfigRequest> Tag

Insert the get settings tag within the <GetConfigRequest> tag in the request message for the get settings. For details on the get settings tags, refer to "4. Get Settings Control Tags" in this document.

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The structure of a request message of the GetConfigRequest tag is as follows.

```
<?xml version="1.0" encoding="UTF-8"?>
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
 <s:Body>

  <GetConfigRequest xmlns="http://www.citizen.co.jp/Config/" MajorVersion="1">
   <!-- Request ID -->
   <MessageID>a55f0b87-4bb1-94fb-a92b-dfa2913c4343</MessageID>
   <!-- Get setting request -->
          .
          .
  </GetConfigRequest>

 </s:Body>
</s:Envelope>
```

<GetConfigRequest> tag
Get settings request data

2.1.4. Notes on request messages

The notes on the request message are as follows.

- If the <SetConfigRequest> tag and <GetConfigRequest> tag are placed at the same time, the request will result in an error. At this time, the setting request or the get setting request is not processed.
- If the printer network settings are being set using the WEB or PC tools, the request will result in an error. To make a request with this service, log out from the WEB or PC tool and interrupt the setting.
- If an XML Print / XML Device / XML Config request message is sent during the processing of the <SetConfigRequest> tag that involves a reboot, the request will not be executed, and an error will occur.

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2.2. Response Messages

2.2.1. Message Structure

The structure of a response message is as follows.

SetConfigRequest tag

The structure of a request message of the SetConfigRequest tag is as follows.

```
<?xml version="1.0" encoding="UTF-8"?>
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
 <s:Body>

  <SetConfigResponse xmlns="http://www.citizen.co.jp/Config/" MajorVersion="1">
   <MessageID>7338ab39-92f2-416b-ac00-25b21956142e</MessageID>
   <Response ResponseCode="OK">
    <RequestID>a55f0b87-4bb1-94fb-a92b-dfa2913c4343</RequestID>
   </Response>
  </SetConfigResponse>

 </s:Body>
</s:Envelope>
```

<SetConfigResponse> tag
Result of setting

GetConfigRequest tag

The structure of a request message of the GetConfigRequest tag is as follows.

```
<?xml version="1.0" encoding="UTF-8"?>
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
 <s:Body>

  <GetConfigResponse xmlns="http://www.citizen.co.jp/Config/" MajorVersion="1">
   <MessageID>7338ab39-92f2-416b-ac00-25b21956142e</MessageID>
   <Response ResponseCode="OK">
    <RequestID>a55f0b87-4bb1-94fb-a92b-dfa2913c4343</RequestID>
    <!-- Get settings request -->
        .
        .
   </Response>
  </GetConfigResponse>

 </s:Body>
</s:Envelope>
```

<GetConfigResponse> tag
Result of get settings

2.2.2. Acquiring the Request Result

The result of a request can be checked in the information within the <SetConfigResponse> tag or the <GetConfigResponse> tag.

Item	Description
ResponseCode attribute	Stores the process result.
MessageID element	Stores the ID for identifying the response message.
RequestID element	Stores the message ID specified when the message was sent.
BusinessError element	Stores the error information when an error occurred.

Checking for Error Occurrence

Whether or not an error occurred can be checked by checking the value of the ResponseCode attribute of the Response element.

Code	Description
OK	Ended normally.
Rejected	Error occurred.

The following is an example of the Response element when the process ended normally.

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```
<Response ResponseCode="OK">
  <RequestID>a55f0b87-4bb1-94fb-a92b-dfa2913c4343</RequestID>
</Response>
```

Checking Error Information

The cause of a result can be checked from the contents of the Code and Description elements in the BusinessError element within the Response element when an error occurs. For details, refer to "2.2.3 Error Codes" in this document.

The following is an example of the Response element when an error occurred.

```
<Response ResponseCode="Rejected">
  <RequestID>a55f0b87-4bb1-94fb-a92b-dfa2913c4343</RequestID>
  <BusinessError Severity="Error">
    <Code>EConnectOffline</Code>
    <Description>Connect: Failed to check the printer status after connecting to the
                 device.</Description>
  </BusinessError>
</Response>
```

2.2.3. Error Codes

The error code, error description, and other detailed information are set in the BusinessError element in the Response element within a response message. The error codes used with this service are shown below.

Code	Description
RequestInvalid	Request information is invalid
EConnectNotFound	Unsupported model
EConnectOffline	Printer is not ready
EIllegal	Unsupported or invalid parameter
EOffline	Device is offline
EFailure	Process cannot be executed
ETimeout	Processing timeout
EptrBadFormat	Data format error
EptrTooBig	Data size error

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3. Setting Control Tags

3.1. Setting Control Tag List

The device control tags that can be used with this service are shown below.

Function	Tag	Description
Message ID	<MessageID>	Specify this to enable the sender to identify the message.
Request print settings	<RequestPrint>	Indicates that the settings are related to the request printing.
SSL/TLS communication settings	<SslTls>	Indicates that the settings are related to the SSL/TLS communication.
Firmware settings	<Firmware>	Indicates that the settings are related to the firmware update.

For tags other than MessageID, the printer will restart after the request is completed. This service cannot be used during the restart. After a while, the restart of the printer will be completed, and this service will be available. In that case, you can check whether the settings have been made correctly by using "4. Get settings control tags".

3.2. Setting Control Tag Details

3.2.1. Message ID (MessageID Tag)

Value

Specify the request message ID.

Description

This tag is used to enable the sender to identify the message.
The specified request message ID is added to the <RequestID> tag of the response message. For details on response messages, refer to "2.2. Response Messages" in this document.

Usage example

<MessageID>12345678**</MessageID>**

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3.2.2. Request print setting (RequestPrint Tag)

Value

The following control tags can be inserted in the RequestPrint tag.

Element	Meaning	Settable range
<TemporaryChange>	The temporary change function setting	Enable: Change the settings temporary Disable: Save settings and apply changes If omitted or empty element, it is treated as Enable.
<Url>	Server URL	RFC3986 compliant (up to 2048 characters)
<Interval>	Interval time (sec)	1 - 600
<ID>	Identification ID	Printable ASCII characters (up to 64 characters)
<AlarmThreshold>	Operation when communication is failures Operating conditions	0 - 100
<AlarmBeep>	Beep function when retrying	Disable or Enable
<AuthType>	Authentication type	None: Disable Basic: Basic authentication
<AuthUser>	Authentication user	RFC7647 compliant (up to 255 characters)
<AuthPassword>	Authentication password	RFC7647 compliant (up to 255 characters)
<UseProxy>	Proxy server setting	Disable or Enable
<ProxyAddress>	Proxy server address	IPv4
<ProxyPort>	Proxy server port	1025 - 65535
<DnsAddr1>	Preferred DNS address	IPv4
<DnsAddr2>	Alternate DNS address	IPv4

Description

This tag is used to change the settings related to the request print.
TemporaryChange specifies whether to enable / disable the temporary change function. If Disable is specified, it will be restarted when the setting is changed, and the contents will be valid after the restart. If Enable is specified, the change will be reflected immediately when the setting is changed without restarting. The setting change is valid until it is restarted, and after the restart, it returns to the state before the setting change.

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3.2.3. SSL/TLS communication settings (SslTls Tag)

Value

The following control tags can be inserted in the SslTls tag.

Function	Tag	Description
Update of self-signed certificate	<UpdateCert>	Update the self-signed certificate.
Import CA signing certificate	<ImportCert>	Import the CA signing certificate.

The details of each tag are explained below.

Update of self-signed certificate (UpdateCert tag)

The meanings and settable values of the parameters are as follows.

Element	Meaning	Settable range
<UpdateCert>	Update of self-signed certificate	-
<IssuerValidityBegin>	The start date of self-signed certificate expiration (yyyy/mm/dd)	Specifies the start date of the validity period of the self-signed certificate. Can specify a date between 2020/01/01 to 2049/12/31. If it is not specified within the valid period of the internal certificate authority, an error will be returned.
<IssuerValidityEnd>	The end date of self-signed certificate expiration (yyyy/mm/dd)	Specifies the end date of the validity period of the self-signed certificate. Can specify a date between 2020/01/01 to 2049/12/31. If it is not specified within the valid period of the internal certificate authority, an error will be returned.

Description

This tag is used to update the self-signed certificate.
The parameter specifies the validity period of the update self-signed certificate.

Usage example

Request message

```
<SetConfigRequest xmlns="http://www.citizen.co.jp/Config/" MajorVersion="1">

  <SslTls>
    <UpdateCert>
      <IssuerValidityBegin>2020/08/17</IssuerValidityBegin>
      <IssuerValidityEnd>2021/08/16</IssuerValidityEnd>
    </UpdateCert>
  </SslTls>

</SetConfigRequest>
```

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Import CA signed certificate (ImportCert)

The meanings and settable values of the parameters are as follows.

Element	Meaning	Settable range
<ImportCert>	Import the CA signed certificate	Specify the certificate to import.
<Data>	Certificate data	Describe the certificate encoded in PEM format. It collates with the pre-imported internal secret key and returns an error if it is not paired.

Description

This tag describes the CA signed certificate to be imported in PEM format.

Usage example

Request message

```
<SetConfigRequest xmlns="http://www.citizen.co.jp/Config/" MajorVersion="1">

  <SslTls>
    <ImportCert>
      <Data>
        -----BEGIN CERTIFICATE-----
        MIID7zCCAtegAwIBAgIJAMR9F//HPFJ/MA0GCSqGSIb3DQEBCwUAMIGGMQswCQYD
          <!-- Omit: About 2KB -->
        s3PznmtsSWtEDNP9eZC2bJrj3OUj3y3Rx2rB0jKST5nCGigzdMRtqXDd0v/ekdiu
        -----END CERTIFICATE-----
      </Data>
    </ImportCert>
  </SslTls>

</SetConfigRequest>
```

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3.2.4. Firmware data (Firmwaer Tag)

Value

The meanings and settable values of the parameters are as follows.

Element	Meaning	Settable range
Data	Firmware data to update	Specify the firmware data encoded in Base64 format for update.

Description

This tag describes the firmware data to be update in Base64 format.

Usage example

Request message

```
<SetConfigRequest xmlns="http://www.citizen.co.jp/Config/" MajorVersion="1">

  <Firmware>
    <Data>
      JwUZVt3Eo/1e4xw0AEafwIAAAACAAMFQGBGHzQUFAgNMaW51eCBLZXJuZWwgSW1hZ2UAAAAAAAAAAAA
      AABEAAF0AAAACjOkwAAAAAAAAA
        <!-- Omit: About 6.2KB -->
      AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
      AAAAAAAAAAAAAAAAAAAAAAAAAA=
    </Data>
  </Firmware>

</SetConfigRequest>
```

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4. Get Settings Control Tags

4.1. Get Settings Control Tag List

The get settings tags that can be used with this service are shown below.

Function	Tag	Description
Message ID	<MessageID>	Specify this to enable the sender to identify the message.
Get Request Print settings	<RequestPrint>	Request about the Request Print settings.
Get SSL/TLS settings	<SslTls>	Request about the SSL/TLS settings.
Get firmware settings	<Firmware>	Request about the Firmware update settings.
Get system log infomation	<SystemLog>	Request about the system log settings.

4.1.1. Message ID (MessageID Tag)

Value

Specify the request message ID.

Description

This tag is used to enable the sender to identify the message.
The specified request message ID is added to the <RequestID> tag of the response message. For details on response messages, refer to "2.2. Response Messages" in this document.

Usage example

<MessageID>12345678**</MessageID>**

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4.1.2. Get Request Print settings (RequestPrint Tag)

Description

This tag is used to get the settings of the Request Print function.

Response message parameter list

The meanings and expected values of the parameters in the response message are as follows.

Element	Meaning	Response range	Description
<Url>	Server URL	RFC3986 compliant	Responds to the URL of the service file on the web server
<Interval>	Interval time (sec)	1 - 600	Responds to the interval time of requests sent to the web server in seconds
<ID>	Identification ID	Printable ASCII characters (up to 64 characters)	Responds to the identification ID of the printer
<AlarmThreshold>	Operation when communication is abnormal Operating conditions	0 - 100	Responds the number of communication failures with the server until the operation at the time of communication abnormality is enabled. If it is 0, the function is disabled.
<AlarmBeep>	Beep function when retrying	Disable or Enable	Responds to enable / disable the beep function during operation when communication is abnormal.
<AuthType>	Authentication type	None: Disable Basic: Basic authentication	Responds to the web server authentication type
<AuthUser>	Authentication user	RFC7647 compliant	Responds to the authentication user name
<AuthPassword>	Authentication password	RFC7647 compliant	Responds to the authentication password
<UseProxy>	Proxy server setting	Disable or Enable	Responds to enable / disable the proxy server function
<ProxyAddress>	Proxy server address	IPv4 or blank	Responds to the address of the proxy server
<ProxyPort>	Proxy server port	1025 – 65535 or blank	Responds to the port of the proxy server
<DnsAddr1>	Preferred DNS address	IPv4	Responds to the address of the preferred DNS address
<DnsAddr2>	Alternate DNS address	IPv4	Responds to the address of the alternate DNS address

Usage example

Request message

```
<GetConfigRequest xmlns="http://www.citizen.co.jp/Config/" MajorVersion="1">

 <!-- Set the RequestPrint tag as an empty element -->
 <RequestPrint></RequestPrint>

</GetConfigRequest>
```

Response message

```
<GetConfigResponse xmlns="http://www.citizen.co.jp/Config/" MajorVersion="1">
  <MessageID>7338ab39-92f2-416b-ac00-25b21956142e</MessageID>
 <!-- Get result of the request -->
 <Response ResponseCode="OK">
   <RequestID>a55f0b87-4bb1-94fb-a92b-dfa2913c4343</RequestID>
 </Response>

 <RequestPrint>
   <Url>http://www.citizen-systems.co.jp/requestprint/test.php</Url>
   <Interval>9000</Interval>
```

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```
        <ID>AA-BB-CC-DD-EE-FF</ID>
        <AlarmThreshold>10</AlarmThreshold>
        <AlarmBeep>Enable</AlarmBeep>
        <AuthType>Basic</AuthType>
        <AuthUser>admin</AuthUser>
        <AuthPassword>admin</AuthPassword>
        <UseProxy>Disable</UseProxy>
        <ProxyUrl>192.168.10.190</ProxyUrl>
        <ProxyPort>8080</ProxyPort>
        <DnsAddr1>192.168.10.1</DnsAddr1>
        <DnsAddr2>8.8.8.8</DnsAddr2>
      </RequestPrint>

    </GetConfigResponse>
```

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4.1.3. Get SSL/TLS settings (SslTls Tag)

Description

This tag is used to get the settings of the SSL/TLS function.

Response message parameter list

The meanings and expected values of the parameters in the response message are as follows.

Element	Meaning	Response range	Description
<ActiveCert>	Server certificate in use	SelfSigned: Self-signed certificate CaSigned: CA signing certificate Disable: Invalid	Responds to the type of server certificate in use. If the SSL communication function is disabled, it responds with Disable.
<SelfSignedCert>	Self-signed certificate settings		Indicates that the child element is a setting for a self-signed certificate.
<CommonName>	Common name (CN)	Half-width alphanumeric characters, half-width spaces, "-" hyphens, "." Dots (up to 64 characters)	Responds to the common name of the self-signed certificate.
<IssuerValidityBegin>	Expiration date start date	YYYY/MM/DD (2020/01/01 to 2049/12/31)	Responds to the start date of the self-signed certificate expiration date.
<IssuerValidityEnd>	Expiration date end date		Responds to the end date of the self-signed certificate expiration date.
<InnerCaCert>	Inner certificate authority certificate settings		Indicates that the child element is a setting related to the certificate authority certificate inside the printer.
<CommonName>	Common name (CN)	Half-width alphanumeric characters, half-width spaces, "-" hyphens, "." Dots (up to 64 characters)	Responds to the common name of the inner certificate authority certificate.
<IssuerValidityBegin>	Expiration date start date	YYYY/MM/DD (2020/01/01 to 2049/12/31)	Responds to the start date of the inner certificate authority certificate.
<IssuerValidityEnd>	Expiration date end date		Responds to the end date of the inner certificate authority certificate.
<CaSignedCert>	CA signed certificate settings		Indicates that the child element is a setting for a CA signed certificate.
<CommonName>	Common name (CN)	Half-width alphanumeric characters, half-width spaces, "-" hyphens, "." Dots (up to 64 characters)	Responds to the common name of the CA signed certificate.
<IssuerValidityBegin>	Expiration date start date	YYYY/MM/DD (2020/01/01 ~ 2049/12/31)	Responds to the start date of the CA signed certificate.
<IssuerValidityEnd>	Expiration date end date		Responds to the end date of the CA signed certificate.

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Usage example

Request message

```
<GetConfigRequest xmlns="http://www.citizen.co.jp/Config/" MajorVersion="1">

 <!-- Set the SslTls tag as an empty element -->
 <SslTls></SslTls>

</GetConfigRequest>
```

Response message

```
<GetConfigResponse xmlns="http://www.citizen.co.jp/Config/" MajorVersion="1">
  <MessageID>7338ab39-92f2-416b-ac00-25b21956142e</MessageID>
 <!-- Get result of the request -->
 <Response ResponseCode="OK">
   <RequestID>a55f0b87-4bb1-94fb-a92b-dfa2913c4343</RequestID>
 </Response>

 <SslTls>
   <ActiveCert>SelfSigned</ActiveCert>
   <SelfSignedCert>
     <CommonName>192.168.10.100</CommonName>
     <IssuerValidityBegin>2020/08/17</IssuerValidityBegin>
     <IssuerValidityEnd>2021/08/16</IssuerValidityEnd>
   </SelfSignedCert>
   <InnerCaCert>
     <CommonName>CITIZEN IF1-EFX2 192.168.10.100</CommonName>
     <IssuerValidityBegin>2020/04/01</IssuerValidityBegin>
     <IssuerValidityEnd>2049/12/31</IssuerValidityEnd>
   </InnerCaCert>
   <CaSignedCert>
     <CommonName>hoge.example.com</CommonName>
     <IssuerValidityBegin>2020/05/23</IssuerValidityBegin>
     <IssuerValidityEnd>2021/05/22</IssuerValidityEnd>
   </CaSignedCert>
 </SslTls>

</GetConfigResponse>
```

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4.1.4. Get Firmware information (Firmware Tag)

Description

This tag is used to get the information of the firmware.

Response message parameter list

The meanings and expected values of the parameters in the response message are as follows.

Element	Meaning	Description
<FirmwareVersion>	Firmware version	Responds to the current firmware version
<HardwareVersion>	Hardware version	Responds to the current hardware version
<ModelName>	Model name of the interface	Responds to the model name of the I/F board

Usage example

Request message

```
<GetConfigRequest xmlns="http://www.citizen.co.jp/Config/" MajorVersion="1">

 <!-- Set the Firmware tag as an empty element -->
 <Firmware></Firmware>

</GetConfigRequest>
```

Response message

```
<GetConfigResponse xmlns="http://www.citizen.co.jp/Config/" MajorVersion="1">
  <MessageID>7338ab39-92f2-416b-ac00-25b21956142e</MessageID>
 <!-- Get result of the request -->
 <Response ResponseCode="OK">
   <RequestID>a55f0b87-4bb1-94fb-a92b-dfa2913c4343</RequestID>
 </Response>

 <Firmware>
    <FirmwareVersion>2.25</FirmwareVersion>
    <HardwareVersion>1.1.3</HardwareVersion>
    <ModelName>IF1-EFX2</ModelName>
 </Firmware>

</GetConfigResponse>
```

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4.1.1. Get system log information (SystemLog Tag)

Description

This tag is used to get the information of the system log.

Response message parameter list

The meanings and expected values of the parameters in the response message are as follows.

Element	Meaning	Response range	Description
<ElapsedTime>	Elapsed time from startup	HHHH:MM:SS	Responds to the elapsed time since the interface board was started.
<CurrentLog>	System log		Responds to the latest system log information.(Up to 100)
<Event>	System log Event	Printable ASCII characters (up to 64 characters)	Stores log events one by one in the tag value and responds. In addition, the elapsed time (seconds) when the event occurred is stored in the Time attribute.

Usage example

Request message

```
<GetConfigRequest xmlns="http://www.citizen.co.jp/Config/" MajorVersion="1">

 <!-- Set the SystemLog tag as an empty element -->
 <SystemLog></SystemLog>

</GetConfigRequest>
```

Response message

```
<GetConfigResponse xmlns="http://www.citizen.co.jp/Config/" MajorVersion="1">
  <MessageID>7338ab39-92f2-416b-ac00-25b21956142e</MessageID>
 <!-- Get result of the request -->
 <Response ResponseCode="OK">
  <RequestID>a55f0b87-4bb1-94fb-a92b-dfa2913c4343</RequestID>
 </Response>

 <SystemLog>
   <ElapsedTime>00:02:54</ElapsedTime>
   <CurrentLog>
     <Event Time=”7”>Printer is connected.</Event>
     <Event Time=”8”>Ethernet connection is connected.</Event>
     <Event Time=”8”>IPassignment is completed (Fixed).</Event>
     <Event Time=”68”>Server not found.</Event>
  </CurrentLog>
 </SystemLog>

</GetConfigResponse>
```

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5. XML Config Service Settings

This chapter describes how to set CITIZEN XML Device Control Service.

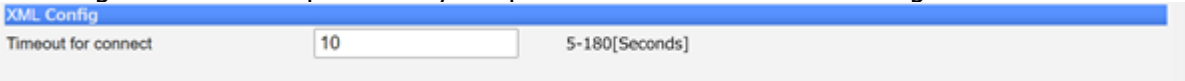
5.1. Web Manager

The settings for the devices can be changed by connecting from a Web browser to each printer. For details on the basic operations, refer to the interface board instruction manual of the printer.

This document describes the setting items of XML Config Service.

5.1.1. Service Setting Screen / XML Config

The settings of the service provided by the printer can be set in the following Service screen.



Item	Initial setting	Setting range	Description
Timeout for connect	10	5 to 180	Timeout time (sec) for waiting for control to start

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6. CITIZEN JavaScript Config SDK

CITIZEN JavaScript Config SDK is a library for CITIZEN XML Config Service to setting and get the setting of the Network I/F using JavaScript on the client side. It enables controlling easily from Web applications using JavaScript.

6.1. Operating Environment

For a Web browser to be supported by this SDK, it needs to support HTML5.

6.2. Programming Guide

6.2.1. Placement of SDK File

CITIZEN JavaScript Config SDK is provided using JavaScript. To use the SDK, place "cxml-config.js" on the Web server. If the source code of the provided SDK is changed, correct operation may become no longer possible. Do not change the source code.

6.2.2. Program Configuration

To control the setting and the get settings, write the program in the HTML <script> tag on the Web page placed on the Web server.
The program configuration is as follows.

```
<!DOCTYPE html>
<html>
<head>
  <meta charset="utf-8" />
  <title>CITIZEN JavaScript Config SDK Sample</title>
  <script type="text/javascript" src="cxml-device-api.js"></script>
  <script type="text/javascript">

    // Creating Object
    var cxml = new citizen.CXMLConfig();
    // Setting Response Receive Callback Function
    cxml.OnReceive = function (res) {
      alert(res.ResponseCode);
    };
    // Setting Send Error Callback Function
    cxml.OnError = function (res) {
      alert(res.status);
    };

    // Register the setting and the get settings control process
    cxml.MessageID('12345678');
    cxml.SetRequestPrintUrl("http://192.168.100.4/Request/test.php");
    cxml.SetRequestPrintInterval(9);
    cxml.UpdateCert('2020/12/01', '2021/12/01');

    // Execute sending
    cxml.Send('http://192.168.10.100/xmlconfig', 'admin', 'admin');

  </script>
</head>

<body>
        .
        .
</body>
</html>
```

Integrating SDK

Program text

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6.2.3. Creating Object

The control to seting and get settings is performed with the CXMLConfig object. First generate an 'citizen.CXMLConfig' instance of the object that matches the device to be used.

6.2.4. Setting Response Receive Callback Function

The control result can be checked in the argument information of the function by setting a callback function in the OnReceive properties of this object.

Item	Description
ResponseCode	Stores the process result
MessageID	Stores the ID for identifying the response message
RequestID	Stores the message ID specified when the message was sent
ErrorCode	Stores the error code when an error occurred
Description	Stores the explanation when an error occurred
RequestPrint	Stores the Request Print settings when it is acquired (when using the GetConfigRequestPrint method)
SslTls	Stores the SSL/TLS settings when it is acquired (when using the GetConfigSslTls method)
Firmware	Stores the firmwaer information when it is acquired (when using the GetInfoFirmware method)
SystemLog	Stores the system log information when it is acquired (when using the GetSystemLog method)

An example of setting the response receive callback function is shown below.

```
//Setting Response Receive Callback Function
cxml.OnReceive = function (res) {
  var msg;
  if(res.ResponseCode == 'OK'){
    msg = 'Config control success!□□';
  }
  else{
    msg = 'Config control failure!□□';
    msg += ' Code: ' + res.ErrorCode + '□';
    msg += ' Description: ' + res.Description + '□□';
  }
  msg += ' RequestID: ' + res. RequestID + '□';
  alert(msg);
};
```

Checking for Error Occurrence

Whether or not an error occurred can be checked by checking the value of ResponseCode.

Code	Description
OK	Ended normally.
Rejected	Error occurred.

Checking Error Information

The cause of a result can be checked from the contents of the ErrorCode and Description elements stored when an error occurs.
The error codes used with this service are shown below.

Code	Description
RequestInvalid	Request information is invalid
DeviceTimeout	Device timed out
ENotConnect	Device connection failed

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Code	Description
RequestInvalid	Request information is invalid
EConnectNotFound	Unsupported model
EIllegal	Unsupported or invalid parameter
EOffline	Device is offline
EFailure	Process cannot be executed
ETimeout	Processing timeout
EptrBadFormat	Data format error
EptrTooBig	Data size error

6.2.5. Setting Send Error Callback Function

The error details can be checked in the argument information of the function by setting a callback function in the OnError properties of this object.
The status when an error occurs is stored in status, and the response details are stored in responseText.

An example of setting the send error callback function is shown below.

```
// Setting Send Error Callback Function
cxml.OnError = function (res) {
  var msg = 'Send failure!□□';
  msg += ' status: ' + res. status + '□';
  msg += ' responseText: ' + res. responseText + '□';
  alert(msg);
};
```

6.2.6. Setting and Get settings Control Process

The setting and the get settings control process can be registered by calling the device control method with this object. For details on the device control method, refer to "6.3. Details on Control Method" in this document.

An example of registering device control is shown below.

```
// - Set request message ID -
cxml.MessageID('12345678');

// - Setting and Get settings control specification -
cxml.SetRequestPrintUrl("http://192.168.100.4/Request/test.php");
cxml.SetRequestPrintInterval(9);
cxml.UpdateCert('2020/12/01', '2021/12/01');
```

6.2.7. Executing Sending

The control process is started by specifying the URL, user name and password of XML Config Control and calling the Send function with this object. When the process ends, the set response receive callback function is called and the control result can be acquired. For details on acquiring control results, refer to "6.2.4. Setting Response Receive Callback Function" in this document.

An example of specifying the executing of sending is shown below.

```
//Execute sending
cxml.Send('http://192.168.10.100/xmlconfig' 'admin', 'admin');
```

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6.3. Details on Control Method

The control methods that can be used with the setting and the get settings are shown below.

Function	Method name	Description
Message ID	MessageID	Specify this to enable the sender to identify the message.
Request Print setting	SetRequestPrintTemporaryChange	Specify the temporary change function setting.
	SetRequestPrintUrl	Specify the server URL for Web server.
	SetRequestPrintInterval	Specify the interval time of print request.
	SetRequestPrintID	Specify the identification ID.
	SetRequestPrintAlarmThreshold	Specify the number of requests failues befor the alarm prit.
	SetRequestPrintAlarmBeep	Specify the beep function when retrying after the alarm print.
	SetRequestPrintAuthType	Specify the authentication type.
	SetRequestPrintAuthUser	Specify the authentication user.
	SetRequestPrintAuthPassword	Specify the authentication password.
	SetRequestPrintUseProxy	Specify the proxy server setting.
	SetRequestPrintProxyAddress	Specify the proxy server address.
	SetRequestPrintProxyPort	Specify the proxy server port.
	SetRequestPrintDnsAddr1	Specify the preferred DNS address.
	SetRequestPrintDnsAddr2	Specify the alternate DNS address
SSL/TLS setting	UpdateCert	Update the self-signed certificate.
	ImportCert	Import the CA signed certificate.
Firmware setting	UpdateFirmware	Update the firmware.
Get settings	GetConfigRequestPrint	Request about the Request Print settings.
	GetConfigSslDls	Request about the SSL/TLS settings.
	GetInfoFirmware	Request about the Firmware update settings.
	GetSystemLog	Request about the system log settings.

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6.3.1. Message ID (MessageID)

Format

MessageID (ID)

Parameters

The meanings and settable values of the parameters are as follows.

Value	Meaning	Settable range
ID	Request message ID	

Description

This method is used to enable the sender to identify the message.
The specified request message ID is added to the RequestID parameter of the control result. For details on control results, refer to "6.2.4 Setting Response Receive Callback Function" in this document.

Usage example

cxml.**MessageID**('12345678');

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6.3.2. Request Print settings - Temporary change (SetRequestPrintTemporaryChange)

Format

SetRequestPrintTemporaryChange (Mode)

Parameters

The meanings and settable values of the parameters are as follows.

Value	Meaning	Settable range
Mode	The temporary change function setting	Enable: Change the settings temporary Disable: Save settings and apply changes If omitted or empty element, it is treated as Enable.

Description

This method is used to set eneble/disable of the temporary change function for the Request Print. If Disable is specified, it will be restarted when the setting is changed, and the contents will be valid after the restart. If Enable is specified, the change will be reflected immediately when the setting is changed without restarting. The setting change is valid until it is restarted, and after the restart, it returns to the state before the setting change.

Usage example

cxml.**SetRequestPrintTemporaryChange**('Disable');

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6.3.3. Request Print settings - Server URL (SetRequestPrintUrl)

Format

SetRequestPrintUrl (Url)

Parameters

The meanings and settable values of the parameters are as follows.

Value	Meaning	Settable range
Url	Server URL	RFC3986 compliant (up to 2048 characters)

Description

This method is used to set URL of the web server service file for the Request Print.

Usage example

cxml.**SetRequestPrintUrl**('http://192.168.100.4/Request/test.php');

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6.3.4. Request Print settings - Interval Time (SetRequestPrintInterval)

Format

SetRequestPrintInterval (Interval)

Parameters

The meanings and settable values of the parameters are as follows.

Value	Meaning	Settable range
Interval	Interval time (sec)	1 - 600

Description

This method is used to set the interval time in seconds for sending request to web server at the Request Print.

Usage example

cxml.**SetRequestPrintInterval**(10);

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6.3.5. Request Print settings - Identification ID (SetRequestPrintID)

Format

SetRequestPrintID (Id)

Parameters

The meanings and settable values of the parameters are as follows.

Value	Meaning	Settable range
Id	Identification ID	Printable ASCII characters (up to 64 characters)

Description

This method is used to set the identification ID of the printer for the Request Print.

Usage example

cxml.**SetRequestPrintID**('00-11-E5-07-DC-5C');

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6.3.6. Request Print settings - Number of requests failues befor the alarm print (SetRequestPrintAlarmThreshold)

Format

SetRequestPrintAlarmThreshold (Count)

Parameters

The meanings and settable values of the parameters are as follows.

Value	Meaning	Settable range
Count	Operation when communication is failures Operating conditions	0 - 100

Description

This method is used to set the identification ID of the printer for the Request Print.
This method is used to set the number of communication failures with the server before enabling the communication error operation at the Request Print. A value of 0 disables the function.

Usage example

cxml.**SetRequestPrintAlarmThreshold**(10);

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6.3.7. Request Print settings - Beep function when the alarm print (SetRequestPrintAlarmBeep)

Format

SetRequestPrintAlarmBeep (Mode)

Parameters

The meanings and settable values of the parameters are as follows.

Value	Meaning	Settable range
Mode	Beep function when the alarm print	Disable or Enable

Description

This method is used to set eneble/disable of the beep function at the time of retry during operation when communication is failure at the Request Print.

Usage example

cxml.**SetRequestPrintAlarmBeep**('Disable');

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6.3.8. Request Print settings - Authentication type (SetRequestPrintAuthType)

Format

SetRequestPrintAuthType (Type)

Parameters

The meanings and settable values of the parameters are as follows.

Value	Meaning	Settable range
Type	Authentication type	None: Disable Basic: Basic authentication

Description

This method is used to set the authentication type of the web server at the Request Print.

Usage example

cxml.**SetRequestPrintAuthType**('None');

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6.3.9. Request Print settings - Authentication user (SetRequestPrintAuthUser)

Format

SetRequestPrintAuthUser (User)

Parameters

The meanings and settable values of the parameters are as follows.

Value	Meaning	Settable range
User	Authentication user	RFC7647 compliant (up to 255 characters)

Description

This method is used to set the user name of the web server authentication at the Request Print.

Usage example

cxml.**SetRequestPrintAuthUser**('admin');

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6.3.10. Request Print settings - Authentication password (SetRequestPrintAuthPassword)

Format

SetRequestPrintAuthPassword (Password)

Parameters

The meanings and settable values of the parameters are as follows.

Value	Meaning	Settable range
Password	Authentication password	RFC7647 compliant (up to 255 characters)

Description

This method is used to set the password of the web server authentication at the Request Print.

Usage example

cxml.**SetRequestPrintAuthPassword**('admin');

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6.3.11. Request Print settings - Proxy server setting (SetRequestPrintUseProxy)

Format

SetRequestPrintUseProxy (Mode)

Parameters

The meanings and settable values of the parameters are as follows.

Value	Meaning	Settable range
Mode	Proxy server setting	Disable or Enable

Description

This method is used to set eneble/disable of the proxy server setting at the Request Print.

Usage example

cxml.**SetRequestPrintUseProxy** ('Disable');

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6.3.12. Request Print settings - Proxy server address (SetRequestPrintProxyAddress)

Format

SetRequestPrintProxyAddress (Address)

Parameters

The meanings and settable values of the parameters are as follows.

Value	Meaning	Settable range
Address	Proxy server address	IPv4

Description

This method is used to set address of the proxy server at the Request Print.

Usage example

cxml.**SetRequestPrintProxyAddress**('192.168.100.190');

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6.3.13. Request Print settings - Proxy server port (SetRequestPrintProxyPort)

Format

SetRequestPrintProxyPort (Port)

Parameters

The meanings and settable values of the parameters are as follows.

Value	Meaning	Settable range
Port	Proxy server port	1025 - 65535

Description

This method is used to set port of the proxy server at the Request Print.

Usage example

cxml.**SetRequestPrintProxyPort**(8080);

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6.3.14. Request Print settings - Preferred DNS address (SetRequestPrintDnsAddr1)

Format

SetRequestPrintDnsAddr1 (Address)

Parameters

The meanings and settable values of the parameters are as follows.

Value	Meaning	Settable range
Address	Preferred DNS address	IPv4

Description

This method is used to set address of the Preferred DNS at the Request Print.

Usage example

cxml.**SetRequestPrintDnsAddr1**('192.168.100.10');

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6.3.15. Request Print settings - Alternate DNS address (SetRequestPrintDnsAddr2)

Format

SetRequestPrintDnsAddr2 (Address)

Parameters

The meanings and settable values of the parameters are as follows.

Value	Meaning	Settable range
Address	Alternate DNS address	IPv4

Description

This method is used to set address of the Alternate DNS at the Request Print.

Usage example

cxml.**SetRequestPrintDnsAddr2**('192.168.100.11');

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6.3.16. SSL/TLS settings - Update the self-signed certificate (UpdateCert)

Format

UpdateCert (IssuerValidityBegin, IssuerValidityEnd)

Parameters

The meanings and settable values of the parameters are as follows.

Value	Meaning	Settable range
IssuerValidityBegin	The start date of self-signed certificate expiration (yyyy/mm/dd)	Specifies the start date of the validity period of the self-signed certificate. Can specify a date between 2020/01/01 to 2049/12/31. If it is not specified within the valid period of the internal certificate authority, an error will be returned.
IssuerValidityEnd	The end date of self-signed certificate expiration (yyyy/mm/dd)	Specifies the end date of the validity period of the self-signed certificate. Can specify a date between 2020/01/01 to 2049/12/31. If it is not specified within the valid period of the internal certificate authority, an error will be returned.

Description

This method is used to update of self-signed certificate of SSL/TLS settings.
The parameter specifies the validity period of the udated self-signed certificate.

Usage example

cxml. **UpdateCert**('2020/12/01' , '2021/12/01');

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6.3.17. SSL/TLS settings - Import the CA signed certificate (ImportCert)

Format

ImportCert (Data)

Parameters

The meanings and settable values of the parameters are as follows.

Value	Meaning	Settable range
Data	Certificate data	Describe the certificate encoded in PEM format. It collates with the pre-imported internal secret key and returns an error if it is not paired.

Description

This method is used to import of CA signed certificate of SSL/TLS settings.
The parameter specifies the CA signed certificate in PME format.

Usage example

```
cxml.ImportCert(
    '-----BEGIN CERTIFICATE-----
    MIID7zCCAtegAwIBAgIJAMR9F//HPFJ/MA0GCSqGSIb3DQEBCwUAMIGGMQswCQYD
      Omit: About 2KB
    s3PznmtsSWtEDNP9eZC2bJrj3OUj3y3Rx2rB0jKST5nCGigzdMRtqXDd0v/ekdiu
    -----END CERTIFICATE-----' );
```

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6.3.18. Firmware settings - Update firmware (UpdateFirmware)

Format

UpdateFirmware (Data)

Parameters

The meanings and settable values of the parameters are as follows.

Value	Meaning	Settable range
Data	Firmware data to update	Specify the firmware data encoded in Base64 format for update.

Description

This method is used to update the firmware settings.
The parameter specifies the firmware in Base64 format.

Usage example

```
cxml.UpdateFirmware (
    'JwUZVt3Eo/1e4xw0AEafwIAAAACAAMFQGBGHzQUFAgNMaW51eCBLZXJuZWwgSW1hZ2UAAAAA
    AAAAAAAAABEAAF0AAAACjOkwAAAAAAAAA
      Omit: About 6.2KB
    AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
    AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA=' );
```

6.3.19. Get Request Print settings (GetConfigRequestPrint)

Format

GetConfigRequestPrint ()

Parameters

None.

Description

This method is used to get the Request Print settings.
The setting information is stored in RequestPrint of the response reception callback with the following elements.

Element	Meaning	Response range	Description
Url	Server URL	RFC3986 compliant	Responds to the URL of the service file on the web server
Interval	Interval time (sec)	1 - 600	Responds to the interval time of requests sent to the web server in seconds
ID	Identification ID	Printable ASCII characters (up to 64 characters)	Responds to the identification ID of the printer
AlarmThreshold	Operation when communication is abnormal Operating conditions	0 - 100	Responds the number of communication failures with the server until the operation at the time of communication abnormality is enabled. If it is 0, the function is disabled.
AlarmBeep	Beep function when retrying	Disable or Enable	Responds to enable / disable the beep function during operation when communication is abnormal.
AuthType	Authentication type	None: Disable Basic: Basic authentication	Responds to the web server authentication type
AuthUser	Authentication user	RFC7647 compliant	Responds to the authentication user name
AuthPassword	Authentication password	RFC7647 compliant	Responds to the authentication password
UseProxy	Proxy server setting	Disable or Enable	Responds to enable / disable the proxy server function
ProxyAddress	Proxy server address	IPv4 or blank	Responds to the address of the proxy server
ProxyPort	Proxy server port	1025 – 65535 or blank	Responds to the port of the proxy server
DnsAddr1	Preferred DNS address	IPv4	Responds to the address of the preferred DNS address
DnsAddr2	Alternate DNS address	IPv4	Responds to the address of the alternate DNS address

Usage example

```
// Response reception callback function setting (for Request Print settings)
cxml.OnReceive = function(res) {
   if(res.ResponseCode == 'OK'){
      var msg = '';
      if (res.RequestPrint){
         msg = '[RequestPrint]';
         msg += '□ URL: ' + res.RequestPrint.Url;
         msg += '□ Interval: ' + res.RequestPrint.Interval;
         msg += '□ ID: ' + res.RequestPrint.ID;
         msg += '□ AlarmThreshold: ' + res.RequestPrint.AlarmThreshold;
         msg += '□ AlarmBeep: ' + res.RequestPrint.AlarmBeep;
         msg += '□ AuthType: ' + res.RequestPrint.AuthType;
```

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```
        msg += '□  AuthUser: ' + res.RequestPrint.AuthUser;
        msg += '□  AuthPassword: ' + res.RequestPrint.AuthPassword;
        msg += '□  UseProxy: ' + res.RequestPrint.UseProxy;
        msg += '□  ProxyAddress: ' + res.RequestPrint.ProxyAddress;
        msg += '□  ProxyPort: ' + res.RequestPrint.ProxyPort;
        msg += '□  DnsAddr1: ' + res.RequestPrint.DnsAddr1;
        msg += '□  DnsAddr2: ' + res.RequestPrint.DnsAddr2;
      }
      alert(msg);
    }
}

// Specificate get the Request Print settings
cxml.GetConfigRequestPrint();
```

6.3.20. Get SSL/TLS settings (GetConfigSslTls)

Format

GetConfigSslTls ()

Parameters

None.

Description

This method is used to get the SSL/TLS settings.
The setting information is stored in SslTls of the response reception callback with the following elements.

Element	Meaning	Response range	Description
ActiveCert	Server certificate in use	SelfSigned: Self-signed certificate CaSigned: CA signing certificate Disable: Invalid	Responds to the type of server certificate in use. If the SSL communication function is disabled, it responds with Disable.
SelfSignedCert	Self-signed certificate settings		Indicates that the child element is a setting for a self-signed certificate.
CommonName	Common name (CN)	Half-width alphanumeric characters, half-width spaces, "-" hyphens, "." Dots (up to 64 characters)	Responds to the common name of the self-signed certificate.
IssuerValidityBegin	Expiration date start date	YYYY/MM/DD (2020/01/01 to 2049/12/31)	Responds to the start date of the self-signed certificate expiration date.
IssuerValidityEnd	Expiration date end date		Responds to the end date of the self-signed certificate expiration date.
InnerCaCert	Inner certificate authority certificate settings		Indicates that the child element is a setting related to the certificate authority certificate inside the printer.
CommonName	Common name (CN)	Half-width alphanumeric characters, half-width spaces, "-" hyphens, "." Dots (up to 64 characters)	Responds to the common name of the inner certificate authority certificate.
IssuerValidityBegin	Expiration date start date	YYYY/MM/DD (2020/01/01 to 2049/12/31)	Responds to the start date of the inner certificate authority certificate.
IssuerValidityEnd	Expiration date end date		Responds to the end date of the inner certificate authority certificate.
CaSignedCert	CA signed certificate settings		Indicates that the child element is a setting for a CA signed certificate.
CommonName	Common name (CN)	Half-width alphanumeric characters, half-width spaces, "-" hyphens, "." Dots (up to 64 characters)	Responds to the common name of the CA signed certificate.
IssuerValidityBegin	Expiration date start date	YYYY/MM/DD (2020/01/01 ~ 2049/12/31)	Responds to the start date of the CA signed certificate.
IssuerValidityEnd	Expiration date end date		Responds to the end date of the CA signed certificate.

Usage example

```
// Response reception callback function setting (for SSL/TLS settings)
cxml.OnReceive = function(res) {
  if(res.ResponseCode == 'OK'){
```

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```
        var msg = '';
        if (res.SslTls){
          msg = '[SSL/TLS] ';
          msg += '□  ActiveCert: ' + res.SslTls.ActiveCert;
          if (res.SslTls.SelfSignedCert){
            msg += '□  SelfSignedCert';
            msg += '□      CommonName: ' + res.SslTls.SelfSignedCert.CommonName;
            msg += '□      IssuerValidityBegin: ' + res.SslTls.SelfSignedCert.IssuerValidityBegin;
            msg += '□      IssuerValidityEnd: ' + res.SslTls.SelfSignedCert.IssuerValidityEnd;
          }
          if (res.SslTls.InnerCaCert){
            msg += '□  InnerCaCert';
            msg += '□      CommonName: ' + res.SslTls.InnerCaCert.CommonName;
            msg += '□      IssuerValidityBegin: ' + res.SslTls.InnerCaCert.IssuerValidityBegin;
            msg += '□      IssuerValidityEnd: ' + res.SslTls.InnerCaCert.IssuerValidityEnd;
          }
          if (res.SslTls.CaSignedCert){
            msg += '□  CaSignedCert';
            msg += '□      CommonName: ' + res.SslTls.CaSignedCert.CommonName;
            msg += '□      IssuerValidityBegin: ' + res.SslTls.CaSignedCert.IssuerValidityBegin;
            msg += '□      IssuerValidityEnd: ' + res.SslTls.CaSignedCert.IssuerValidityEnd;
          }
        }
        alert(msg);
      }
    }

    // Specificate get the SSL/TLS settings
    cxml.GetConfigSslTls();
```

6.3.21. Get firmware information (GetInfoFirmware)

Format

GetInfoFirmware ()

Parameters

None.

Description

This method is used to get the firmware information.
The information is stored in Firmware of the response reception callback with the following elements.

Element	Meaning	Description
FirmwareVersion	Firmware version	Responds to the current firmware version
HardwareVersion	Hardware version	Responds to the current hardware version
ModelName	Model name of the interface	Responds to the model name of the I/F board

Usage example

```
// Response reception callback function setting (for firmware information)
cxml.OnReceive = function(res) {
  if(res.ResponseCode == 'OK'){
    var msg = '';
    if (res.Firmware){
      msg = '[Firmware] ';
      msg += '□ FirmwareVersion: ' + res.Firmware.FirmwareVersion;
      msg += '□ HardwareVersion: ' + res.Firmware.HardwareVersion;
      msg += '□ ModelName: ' + res.Firmware.ModelName;
    }
    alert(msg);
  }
}

// Specificate get the firmware information
cxml.GetInfoFirmware();
```

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6.3.22. Get system log information (GetSystemLog)

Format

GetSystemLog ()

Parameters

None.

Description

This method is used to get the system log information.
The information is stored in SystemLog of the response reception callback with the following elements.

Element		Meaning	Response range	Description
ElapsedTime		Elapsed time from startup	HHHH:MM:SS	Responds to the elapsed time since the interface board was started.
CurrentLog		System log		Responds to the latest system log information.(Up to 100)
	Time	Elapsed time (seconds)		The elapsed time (seconds) when the event occurred is stored in the Time attribute.
	Event	Log event	Printable ASCII characters (up to 64 characters)	Stores log events one by one in the tag value and responds.

Usage example

```
// Response reception callback function setting (for system log infomation)
cxml.OnReceive = function(res) {
   if(res.ResponseCode == 'OK'){
      var msg = '';
      if (res.SystemLog){
         msg += '[SystemLog]   ElapsedTime: ' + res.SystemLog.ElapsedTime;
         if (res.SystemLog.CurrentLog[0]){
            for(i=0; i<res.SystemLog.CurrentLog.length; i++){
               msg += '□   ' + res.SystemLog.CurrentLog[i].Time + ' : ' +
                  res.SystemLog.CurrentLog[i].Event;
            }
         }
      }
      alert(msg);
   }
}

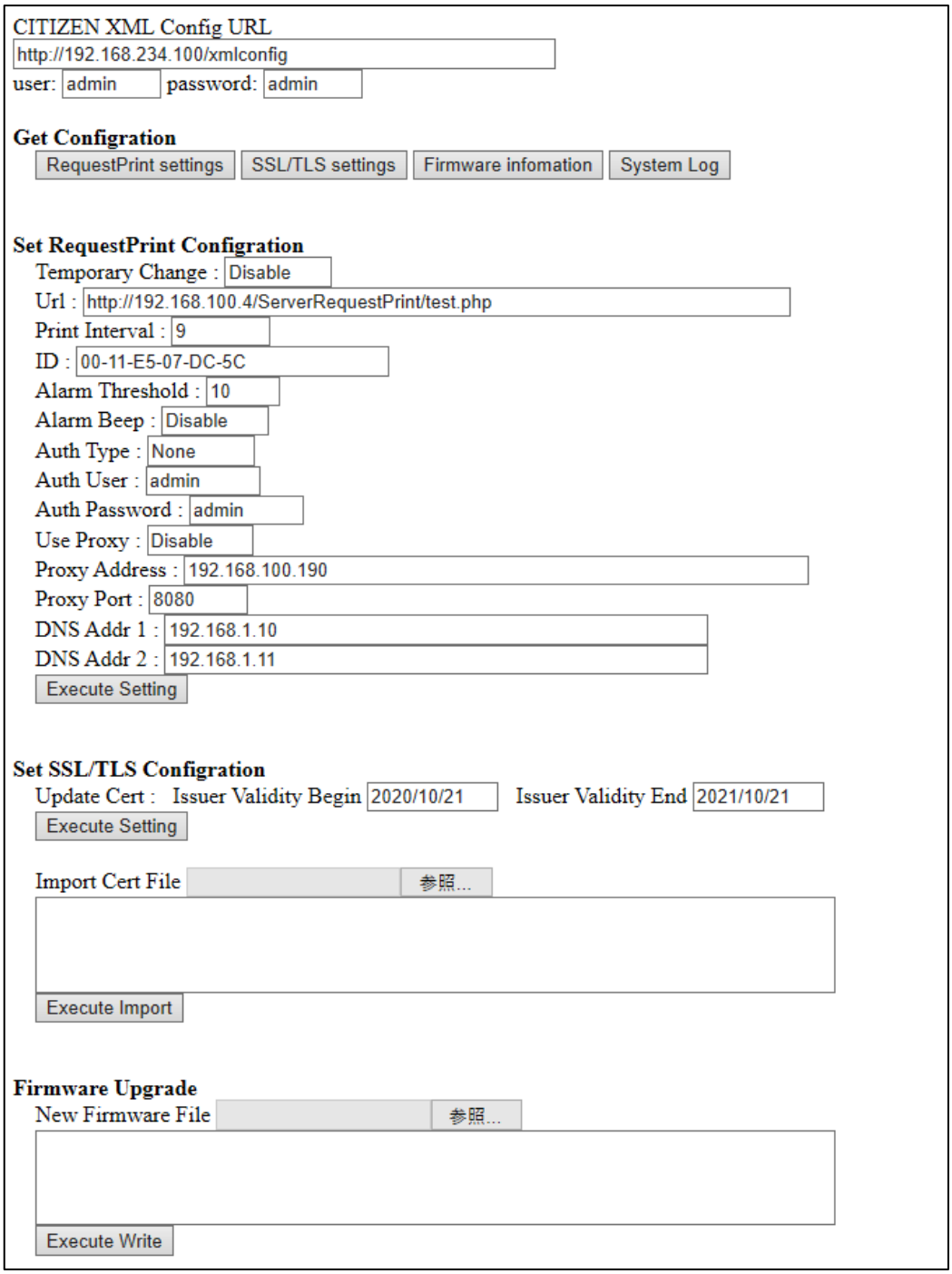
// Specificate get the system log information
cxml.GetSystemLog();
```

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7. Sample Programs

7.1. JavaScript Config SDK

The following shows how to use the sample programs of JavaScript Config Control SDK.
Start the Web browser and access the URL for the location where the sample is placed. When the sample program is run, the following screen appears.



Set the URL of the printer to which to send request messages, the user name and the password at the top of the screen. Enter each setting item and press the execute button to execute the sample program.

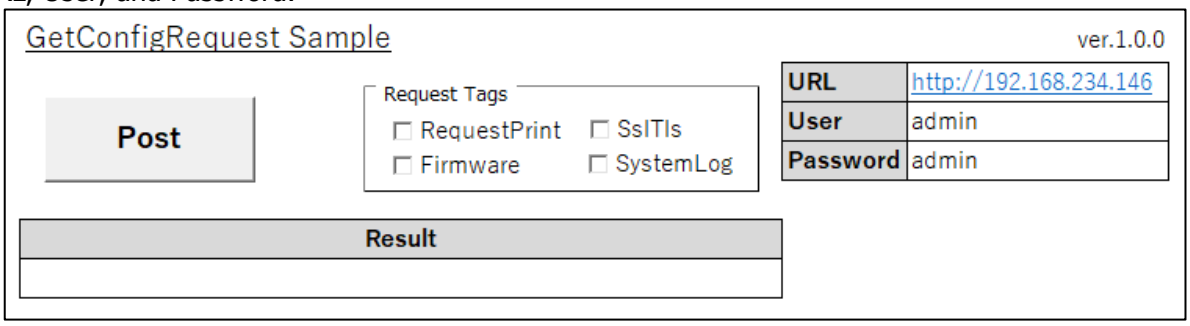
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7.2. EXCEL VBA macro

The following shows how to use the EXCEL VBA macro sample program using the CITIZEN XML Config service. Please enable the macro of EXCEL and execute "XMLConfigSample.xlsm".

7.2.1. GetConfigRequest

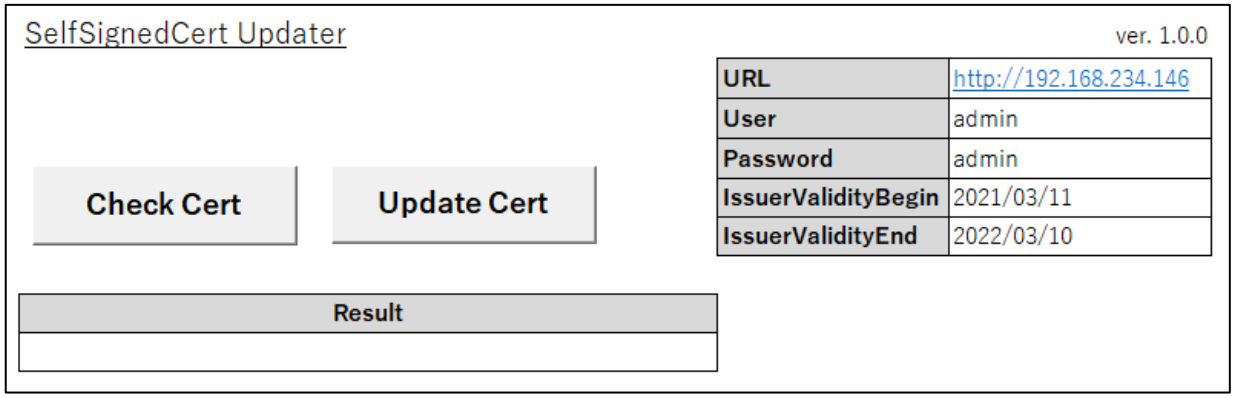
The following shows Select the sheet "GetConfig". The following sheet will be displayed, so specify the URL, User, and Password.



When press the "Post" button, the result of GetConfigRequest (XML) is displayed in Result.Select the tag you want to complete by selecting the checkbox in the request tag.

7.2.2. SSL/TLS Self-signed certificate

Select the sheet "UpdateCert". The following sheet will be displayed, so specify the URL, User, and Password.



When press the "Check Cert" button, the expiration date of the SSL/TLS self-signed certificate will be displayed. When press the "Update Cert" button, the expiration date of the self-signed certificate will be updated on the date specified by IssuerValidityBegin and IssuerValidityEnd. Result shows the result (XML) of SetConfigRequest.

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