



tvONE REST API

Document version: 1.0.0
Firmware version: M406 and above
Supported products: C3-540, C3-510 and C3-503

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REST API

Getting started

Base Request URI

The format of the base request URI is:

```
http(s)://{device_ip}/api/{api_version}/{resource_path}
```

- {device_ip} is the IP address of the device
- {api_version} is the version of the API you wish to use
 - In this format: v{x} (where x is the number)
 - For example: v1
- {resource_path} is the path to the resource you wish to interact with
 - For example: ../Windows/Window1

An example of a fully formatted URI is: <https://192.168.0.1/api/v1/Slots/Slot1>

HTTP version

The only supported HTML version is HTTP 1.1

HTTP request message header

- Required: Specify a HTTP Method. The methods supported by the API are GET, POST and PUT
- Required: Specify the Authorisation header to support the basic authentication required by the service
- POST and PUT must specify the media type `Content-type: application/json`

HTTP response message header

- Required: HTTP status codes include 2xx success codes and the 4xx and 5xx error codes. API will document which status codes are returned for each request
- Media type will always be defined as `Content-type: application/json`

HTTPS session management

When using HTTPS connections, it is important to allow sessions in your client code. This will significantly speed up communication with the device

HTTP authentication

The API uses HTTP Basic Authentication. This is sent to the device using the Authorization HTTP header.

For example, Authorization: Basic YWRtaW46dGVzdA==

GET method

This method is used for all requests where data is to be returned to the caller

Example

Get a Window:

Request:

```
GET https://192.168.0.1/api/v1/routing/windows/Window1
```

Response:

Status code: 200

Content-type: application/json

```
{
  Alias: Window1
  Fullname: Window1
  Input: Slot1.In1
  ...
}
```

Response status codes

See the [HTTP response status codes](#) for details

PUT method

This method is used for all cases where data is being sent to the device. As all API resources are already existing on the device (and may just be empty) you are always updating an existing resource using a PUT method.

Example

Update a Window

Request:

```
PUT https://192.168.0.1/api/v1/routing/windows/Window1
```

Request body:

Content-type: application/json

```
{  
    Alias: NewName  
}
```

Response:

Status code: 200

Body: empty

Response status codes

See the [HTTP response status codes](#) for details

POST method

This method is used only when you are calling an RPC command. This is not strictly REST but there are some commands we use that do not fit into the REST resource definition.

Example

Play a play queue

Request:

```
POST https://192.168.0.1/api/v1/Slots/Slot1/In1/ActiveQueue/Play
```

Request body:

Empty

Response:

Status code: 200

Response status codes

See the [HTTP response status codes](#) for details

HTTP Response status codes

Response codes

Every request to the device will return with one of the responses status codes listed below.

Below is a list of the HTTP response codes

| Response status code | Description |
|----------------------------------|--|
| 200 (OK) | Request was successful |
| 400 (Bad Request) | Parameter and/or body is missing, not formatted correctly or is invalid in some way (e.g. string too long, or number out of range). For PUT, and incorrect JSON body will cause this error (e.g. malformed properties) |
| 401 (Unauthorized) | The user credentials supplied are not correct or the Basic Auth header is not sent |
| 404 (Not Found) | The request path does not exist. |
| 405 (Method Not Allowed) | The method is not allowed for the path. For example, using a POST or PUT on a command that only supports GET |
| 413 (Payload too large) | Message-body is larger than the allowed buffer, which is 16KB. PUT only |
| 500 (Internal Server Error) | The server failed to execute the request in some way. Defined by a message-body shorter than what is given by the Content-Length header |
| 501 (Not Implemented) | The request method has not been implemented. I.e. it is not one of GET, HEAD, POST, PUT |
| 503 (Service Unavailable) | Insufficient resources (e.g. concurrent connection limit reached) |
| 505 (HTTP version not supported) | HTTP-version is not "HTTP/1.1" |

Most error response codes do not return any additional data as they are self-explanatory, however the 401 Bad Request error always returns additional data that includes an error code and a message.

HTTP 400 (Bad Request) codes and messages:

List of all error codes and messages for the 401 Bad Request response

| Error code | Error message | Description |
|-------------------|--------------------------------------|--|
| 105 | Identifier too long | The string you are trying to set is not within the limits specified for that property. For example, an Alias that is more than 19 characters |
| 103 | Syntax Error | General syntax error mostly likely caused by setting an invalid numeric value. For example, setting IP_Address to "fred" where an IP address is expected. |
| 121 | Field is read only | The property is read only and cannot be set |
| 122 | Value given is above allowable range | The number you are trying to set is not within the valid range for that property. For example, a Brightness value of 200 |
| 123 | Value given is above allowable range | The number you are trying to set is not within the valid range for that property. For example, a SCurver value of 0.1 |
| 124 | Value given is not supported | Setting a string value to unsupported value. For example, setting "true" instead of "Yes" for a YesNo property |
| 125 | Error writing to field | Unexpected value (or null) or internal error when setting field. For example, setting string when a specific type is expected (Output DefaultLoRes = "fred") |
| 127 | This name is already in use | Setting an Alias to a name that is already in use |
| 128 | Unrecognised Object name | The value specified is not the correct object type. For example, setting Storyboard Canvas property to an input (Slot1.In1) |
| 113 | Unrecognised Field name | The property you are trying to set does not exist. For example, Window.Name Note: This only occurs when using the PUT method. When using the GET method and a property cant be found, you will get a 404 Not Found response |

HTTP 400 (Bad Request) Invalid characters:

An invalid character is considered to be any character which is not an unreserved character (per RFC 3986 Section 2.3.).

These unreserved characters are:

ALPHA / DIGIT / "-" / "." / "_" / "~" or the reserved character forward slash "/".

HTTP Content-length mismatch

If the content length specified by the HTTP header Content-length does not match the actual size of the message body, your request will fail.

| Content-length is larger than body | Content-length is smaller than body |
|---|---|
| <p>The server will wait for all the data to arrive but because the content-length is larger, there is not enough data.</p> <p>In this case the request will "hang" until cancelled. At which point you will get a HTTP 500 error response</p> | <p>The server will read up to the Content-length. The remainder of the data will then be interpreted as a new packet which will cause a failure on the server.</p> <p>The most likely HTTP error is the 400 (Bad Request) as the data will be "malformed". But there is a possibility for any other error to be returned in this case</p> |