REST API for Crestron Virtual Control Server-Based Control System

Programming Guide

Crestron Electronics, Inc.

Original Instructions
The U.S. English version of this document is the original instructions.
All other languages are a translation of the original instructions.

Contents

Overview

The Crestron Virtual Control server-based control system provides a scalable solution for deploying programs, rooms, and devices across an enterprise. The Crestron® control system infrastructure resides entirely on a remote server, which is installed and configured using supported Linux® operating system platforms.

This documentation describes the REST API for the Crestron Virtual Control server. The REST API allows programmers to modify device settings and view device status using REST API calls.

> **NOTE:** This document is current as of the 4.0000.00001 software release.

The REST API binds to the Crestron Virtual Control server as a new transport interface (much like a direct transport interface or a serial join interface). The API layer provides a translation from the Crestron Virtual Control server. Web server requests are stateless, and all stateful information is maintained between the Crestron Virtual Control REST API layer and programs, devices, and other control system objects.

What's New?

Updates to the Crestron Virtual Control REST API and documentation are described below from newest to oldest.

April 15, 2022

- **Documentation updated for SIMPL on VC-4 Release**
  - Added StopDebugging API (on page 61) reference topic.
  - Updated DeviceInfo API (on page 16), ProgramInstance API (on page 35), ProgramLibrary API (on page 47), and SystemTable API (on page 63) topics.
  - Converted documentation to latest HTML manual template.

Quick Start

The Quick Start topics describe how to get started with the Crestron Virtual Control REST API, including how to authenticate and make calls with the API.

This section provides the following information:

Prerequisites and Assumptions

This document assumes the following knowledge prerequisites prior to working with the Crestron Virtual Control REST API:

- The programmer has a working knowledge of API programming conventions, including how to format HTTPS requests to transfer data to and from the server.
- The programmer has a working knowledge of Crestron control system infrastructures and protocols.
- The Crestron Virtual Control server has been installed and is running on the network. For more information, refer to the Crestron Virtual Control for Red Hat® OS Product Manual.

Authentication

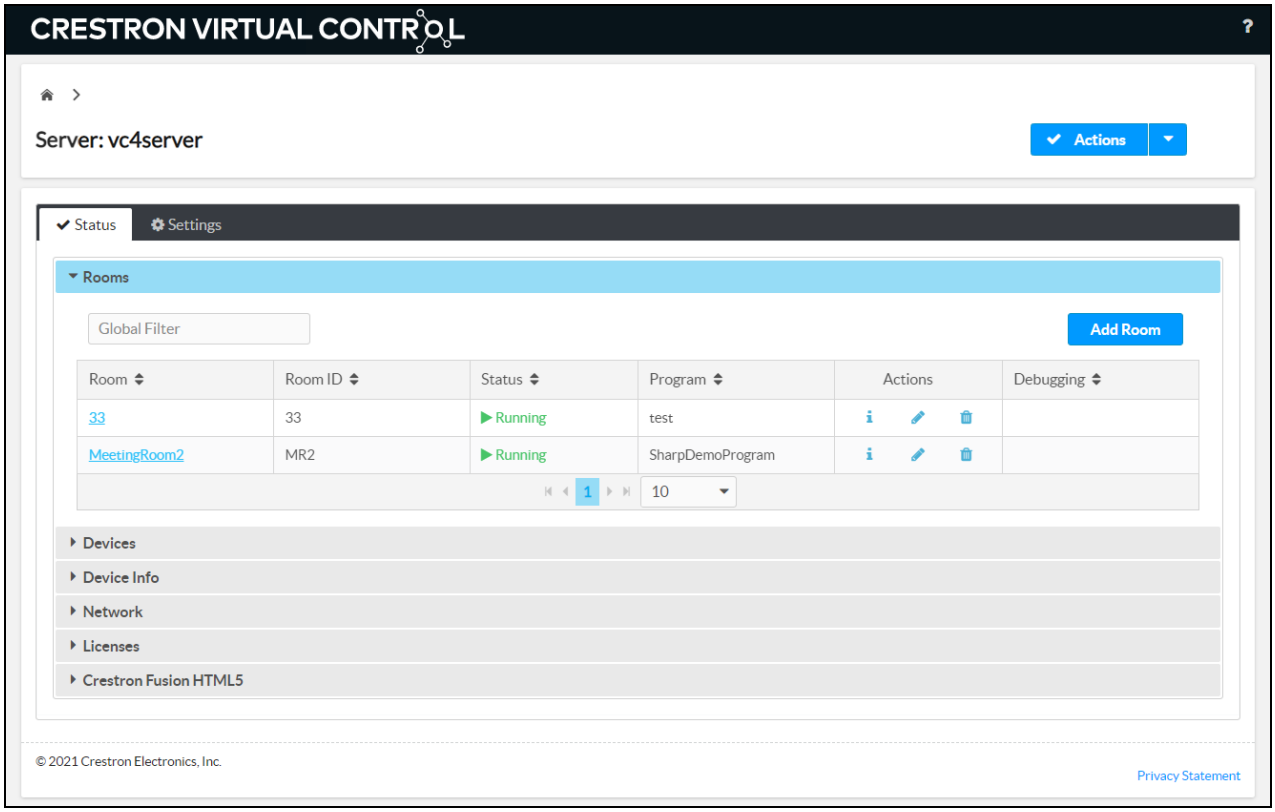
The REST API layer of the Virtual Control server may be accessed by using the "/VirtualControl/config/api" base URI. A token generated by the Crestron Virtual Control server is required for accessing the REST API layer. This token is authenticated by the Crestron Virtual Control server when an HTTPS request is sent.

To generate a token for accessing the Crestron Virtual Control REST API layer:

1. Access the Crestron Virtual Control web configuration interface by entering "https://[ServerURL]/VirtualControl/config/settings/" into a web browser, where [ServerURL] is the IP address or host name of the Linux® software platform where the Crestron Virtual Control service is installed.

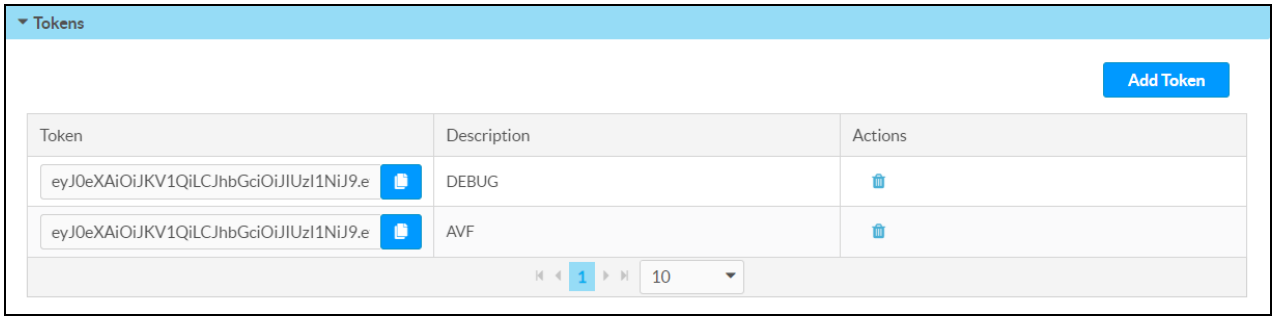
   The **Status** > **Rooms** page is displayed by default.

   Crestron Virtual Control Web Configuration Interface



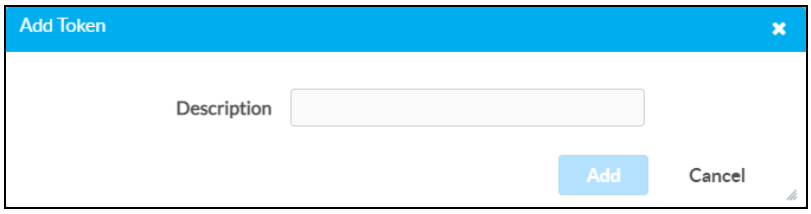
2. Navigate to **Settings** > **Tokens**.

Settings Tab - Tokens



3. Select **Add Token**. The **Add Token** dialog box is displayed.

   Add Token Dialog Box



4. Enter a description for the token in the **Description** text field, and then select **Add**. A new token is generated and added to the **Tokens** table.

Once a token has been generated, the token must be appended to any HTTPS request using the "Authorization" header. If the provided token is authorized, the HTTPS request is sent to the server. If the token is not authorized, an error message is returned indicating the credentials are not valid.

Make API Calls

To make API calls to the Crestron Virtual Control server:

1. Obtain a valid authentication token from the Crestron Virtual Control web configuration interface. For more information, refer to Authentication (on page 5).
2. Open an API development environment program (such as Postman) that supports HTTPS requests.
3. Issue an HTTPS request that includes the required HTTPS method, headers, and parameters as outlined in the sections that follow. The authentication token obtained in step 1 must be appended to the request in an "Authorization" header.

If accessing the REST API layer via cURL, the cURL command must be formatted as follows, with any parameters entered after the authorization token in the appropriate format (multipart/form-data or application/json):

cURL Base Command

```
curl -X [HTTPSMethod] "https://[ServerURL]/VirtualControl/config/api/[APIDirectory]" -H "accept: [ResponseContentType]" -H "Authorization: [Token]"
```

The format of the cURL command may also be used to make web calls in other programming languages.

API Reference

The REST API interface allows configuration and device status changes to be passed to the Crestron Virtual Control server. The REST API calls defined in this section are used to get and set data for different device functions and are current as of the version 4.0000.00001 software release.

The following sections describe the various APIs that are available within the Crestron Virtual Control REST API interface. Each section contains the following information:

- The HTTPS methods that may be issued for each API
- A list of parameters available for each HTTPS method and the parameter content type (if applicable)
- A list of responses for each HTTPS method, including the cURL base command, the request URL, and list of response codes

Authentication API

The Authentication API is used to view, create, and remove authentication groups for the Crestron Virtual Control server.

Authentication groups grant different permissions to users based on their assigned group. For example, certain Crestron Virtual Control features may appear as read-only to groups with lower permission settings.

> **NOTE:** Authentication groups and users must be created on the Linux platform before they can be configured for the Crestron Virtual Control server. For more information, refer to the Crestron Virtual Control for Red Hat OS Product Manual.

Read All Authentication Objects

This method returns all the authentication objects created for the Crestron Virtual Control server.

> **NOTE: AddGroup** and **RemoveGroup** are write-only properties and are not returned when a GET method is issued.

Syntax

- **HTTPS Method**: GET
- **Base URI**: /VirtualControl/config/api/Authentication

Parameters

None

Responses

Response Content Type: Application/JSON

cURL Base Command

```
curl -X GET "https://[ServerURL]/VirtualControl/config/api/Authentication" -H "accept:
application/json" -H "Authorization: [Token]"
```

Example cURL Command

```
curl -X GET "https://123.456.789.000/VirtualControl/config/api/Authentication" -H "accept:
application/json" -H "Authorization: 1234567890"
```

Request URL

```
https://[ServerURL]/VirtualControl/config/api/Authentication
```

Response Codes

Code	Description
200	Successful operation Example Response `{ "Device": { "Authentication": { "Groups": [ { "Name": "Admins", "AccessLevel": "Administrator" } ] } } }`
404	Not found
500	Internal server error
503	Service unavailable

Read All Authentication Groups

This method returns all the authentication groups created for the Crestron Virtual Control server.

Syntax

- **HTTPS Method**: GET
- **Base URI**: /VirtualControl/config/api/Authentication/Groups

Parameters

None

Responses

Response Content Type: Application/JSON

cURL Base Command

```
curl -X GET "https://[ServerURL]/VirtualControl/config/api/Authentication/Groups" -H "accept: application/json" -H "Authorization: [Token]"
```

Example cURL Command

```
curl -X GET "https://123.456.789.000/VirtualControl/config/api/Authentication/Groups" -H "accept: application/json" -H "Authorization: 1234567890"
```

Request URL

```
https://[ServerURL]/VirtualControl/config/api/Authentication/Groups
```

Response Codes

Code	Description
200	Successful operation Example Response `{ "Device": { "Authentication": { "Groups": [ { "Name": "Test", "AccessLevel": "Administrator" } ] } } }`
404	Not found
500	Internal server error
503	Service unavailable

Create Authentication Group

This method creates a new authentication group in the authentication group library.

Syntax

- **HTTPS Method**: POST
- **Base URI**: /VirtualControl/config/api/Authentication/Groups

Parameters

POST Authentication/Groups Parameters

Name	Description
`body`	**Required.** JSON body parameter that creates a new authentication group. Example Value `{ "Device": { "Authentication": { "AddGroup": { "Name": "Test", "AccessLevel": "Administrator" } } } }`

The following body parameters must be included in the POST request:

POST Authentication/Groups Body Parameters

Name	Description
`Name`	**Required.** String that sets the name of the authentication group to add.
`AccessLevel`	**Required.** String that sets the access level for the authentication group. Valid values are listed below. • `Administrator`: Members are granted full administrative privileges. • `Operator`: Members are granted operating privileges only. • `Connect`: Members are granted read-only privileges only.

Responses

Response Content Type: Application/JSON

cURL Base Command

```
curl -X POST "https://[ServerURL]/VirtualControl/config/api/Authentication/Groups" -H "accept: application/json" -H: "Authorization: [Token]" -H "Content-Type: application/json" -d "{ \"[Parameter]\": \"[Value]\" }"
```

Example cURL Command

```
curl -X POST "https://123.456.789.000/VirtualControl/config/api/Authentication/Groups" -H
"accept: application/json" -H: "Authorization: 1234567890" -H "Content-Type: application/json" -d
"{ \"Device\": { \"Authentication\": { \"AddGroup\": { \"Name\": \"Test\", \"AccessLevel\":
\"Administrator\" } } }}"
```

Request URL

```
https://[ServerURL]/VirtualControl/config/api/Authentication/Groups
```

Response Codes

Code	Description

200	Successful operation
	
	Example Value
	
	{
	"Actions": [
	{
	"Operation": "set partial",
	"TargetObject": "Authentication",
	"Results": [
	{
	"StatusInfo": SUCCESS",
	"object": {
	"Name": "Test",
	"AccessLevel": "Administrator"
	}
	"StatusId": 0,
	"path": "Device.Programs.Authentication"
	}
	],
	"Version": "2.0.1"
	}
	]
	}

200	Invalid input (returns `"StatusInfo": "DUPLICATE GROUP"`)
400	Bad request error
404	Not found
500	Internal server error
503	Service unavailable

Remove Authentication Group

This method removes an existing authentication group from the authentication group library.

Syntax

- **HTTPS Method**: POST
- **Base URI**: /VirtualControl/config/api/Authentication/Groups

Parameters

POST Authentication/Groups Parameters

Name	Description
`body`	**Required.** JSON body parameter that removes an existing authentication group. Example Value `{ "Device": { "Authentication": { "RemoveGroup": { "Name": "Test", "AccessLevel": "Administrator" } } } }`

The following body parameters must be included in the POST request

POST Authentication/Groups Body Parameters

Name	Description
`Name`	**Required.** String that provides the name of the authentication group to remove.
`AccessLevel`	**Required.** String that provides the access level of the removed authentication group. Valid values are listed below. • `Administrator`: Members are granted full administrative privileges. • `Operator`: Members are granted operating privileges only. • `Connect`: Members are granted read-only privileges only.

Responses

Response Content Type: Application/JSON

cURL Base Command

```
curl -X POST "https://[ServerURL]/VirtualControl/config/api/Authentication/Groups" -H "accept: application/json" -H: "Authorization: [Token]" -H "Content-Type: application/json" -d "{ \"[Parameter]\": \"[Value]\" }"
```

Example cURL Command

```
curl -X POST "https://123.456.789.000/VirtualControl/config/api/Authentication/Groups" -H
"accept: application/json" -H: "Authorization: 1234567890" -H "Content-Type: application/json" -d
"{ \"Device\": { \"Authentication\": { \"RemoveGroup\": { \"Name\": \"Test\", \"AccessLevel\":
\"Administrator\" } } }}"
```

Request URL

```
https://[ServerURL]/VirtualControl/config/api/Authentication/Groups
```

Response Codes

Code	Description

200	Successful operation
	
	Example Value
	
	{
	"Actions": [
	{
	"Operation": "set partial",
	"TargetObject": "Authentication",
	"Results": [
	{
	"StatusInfo": Deleted",
	"object": "NULL"
	"StatusId": 0,
	"path": "Device.Programs.Authentication"
	}
	],
	"Version": "2.0.1"
	}
	]
	}

200	Invalid input (returns `"StatusInfo": "INVALID GROUP"`)
400	Bad request error
404	Not found
500	Internal server error
503	Service unavailable

DeviceInfo API

The DeviceInfo API is used to view information for the Crestron Virtual Control server.

Read All DeviceInfo Objects

This method returns all information stored for devices in the device info library.

Syntax

- **HTTPS Method**: GET
- **Base URI**: /VirtualControl/config/api/DeviceInfo

Parameters

None

Responses

Response Content Type: Application/JSON

cURL Base Command

```
curl -X GET "https://[ServerURL]/VirtualControl/config/api/DeviceInfo" -H "accept:
application/json" -H "Authorization: [Token]"
```

Example cURL Command

```
curl -X GET "https://123.456.789.000/VirtualControl/config/api/DeviceInfo" -H "accept:
application/json" -H "Authorization: 1234567890"
```

Request URL

```
https://[ServerURL]/VirtualControl/config/api/DeviceInfo
```

Response Codes

Code	Description

200	Successful operation
	
	Example Value
	
	{
	"Device": {
	"DeviceInfo:" {
	"DeviceKey": "5365473269d52577563277770050e8c7",
	"DeviceId": "000c29d3c7a2000c29d3c7a2000c29d",
	"ApplicationVersion": "1.8001.0124",
	"Manufacturer": "Crestron",
	"ID": "1",
	"MacAddress": "11:22:33:44:55:66",
	"Model1": "VC-4",
	"Category": "Control System",
	"BuildDate": "Feb 20 2022",
	"Version": "2.7100.00016",
	"Name": "redhat",
	"PythonVersion": "3.8.8\n",
	"MonoVersion": "6.12.0.107"
	}
	}
	}

404	Not found
500	Internal server error
503	Service unavailable

DeviceMap API

The DeviceMap API is used to view device maps in the Crestron Virtual Control server's device map library. Device maps allow access to device resources across the entire Crestron Virtual Control server environment.

Read All DeviceMaps

This method returns all device maps in the device map library.

Syntax

- **HTTPS Method**: GET
- **Base URI**: /VirtualControl/config/api/DeviceMap

Parameters

None

Responses

Response Content Type: Application/JSON

cURL Base Command

```
curl -X GET "https://[ServerURL]/VirtualControl/config/api/DeviceMap" -H "accept:
application/json" -H "Authorization: [Token]"
```

Example cURL Command

```
curl -X GET "https://123.456.789.000/VirtualControl/config/api/DeviceMap" -H "accept:
application/json" -H "Authorization: 1234567890"
```

Request URL

```
https://[ServerURL]/VirtualControl/config/api/DeviceMap
```

Response Codes

Code	Description

200	Successful operation
	
	Example Value
	
	{
	"Device": {
	"Programs": {
	"DeviceMapLibrary": {
	"1: {
	"SupportAssociation: "false",
	"UniqueId": "1"
	"ProgramInstanceId": "PGM1"
	"DeviceId": "DMID1"
	"MacAddress": "11:22:33:44:55:66",
	"Make": "Crestron",
	"Model": "VC-4",
	"HostName": "ubuntu",
	"Name": "DevMap",
	"Description": "new device map object"
	"ProgramIpId": "2",
	"Status": online
	}
	}
	}
	}
	}

404	Not found
500	Internal server error
503	Service unavailable

DeviceProgramMap API

The DeviceProgramMap API is used to create, view, and delete device-to-program maps in the Crestron Virtual Control server's DeviceProgramMap library.

Device-to-program mapping allows devices connected to the Crestron Virtual Control server to be mapped to specific programs across the platform.

Create DeviceProgramMap

This method creates a new device-to-program map in the device-to-program map library.

Syntax

- **HTTPS Method**: POST
- **Base URI**: /VirtualControl/config/api/DeviceProgramMap

Parameters

POST DeviceProgramMap Parameters

Name	Description
`body`	**Required.** JSON body parameter that creates a new device-to-program map entry. Example Value `{ "ProgramInstanceId": "1", "MacAddress": "11:22:33:44:55:66", "DeviceIpId": "9", "ProgramIpId": "10" }`

The following body parameters may be included in the POST request:

POST DeviceProgramMap Body Parameters

Name	Description
`ProgramInstanceId`	Optional. String that sets the ID of the program instance that will be mapped to the device. Length must be between 1–64 characters.
`MacAddress`	Optional. String that sets the MAC (Media Access Control) address of the mapped device.
`DeviceIpId`	Optional. String that sets the IP ID of the mapped device on the network. Value must be between 2 and 65535.
`ProgramIpId`	Optional. String that sets the IP ID of the mapped program instance on the network. Value must be between 2 and 65535.

Responses

Response Content Type: Application/JSON

cURL Base Command

```
curl -X POST "https://[ServerURL]/VirtualControl/config/api/DeviceProgramMap" -H "accept: application/json" -H: "Authorization: [Token]" -H "Content-Type: application/json" -d "{ \"[Parameter]\": \"[Value]\" }"
```

Example cURL Command

```
curl -X POST "https://123.456.789.000/VirtualControl/config/api/DeviceProgramMap" -H "accept: application/json" -H: "Authorization: 1234567890" -H "Content-Type: application/json" -d "{ \"ProgramInstanceId\": \"1\", \"MacAddress\": \"11:22:33:44:55:66\", \"DeviceIpId\": \"9\", \"ProgramIpId\": \"10\"}"
```

Request URL

```
https://[ServerURL]/VirtualControl/config/api/DeviceProgramMap
```

Response Codes

Code	Description

200	Successful operation
	Example Response
	<pre>{
	  "Actions": [
	  {
	  "Operation": "set partial",
	  "TargetObject": "DeviceProgramMapLibrary",
	  "Results": [
	  {
	  "StatusInfo": "SUCCESS",
	  "object": {
	  "UniqueId: "DeviceProgramMapId1",
	  "MacAddress": "11:22:33:44:55:66",
	  "DeviceIpId": "9",
	  "ProgramInstanceId": "p003",
	  "ProgramIpId": "10",
	  "Status": "ONLINE"
	  },
	  "StatusId": 0,
	  "Path": "Devices.Programs.DeviceProgramMapLibrary"
	  }
	  ],
	  "Version": "2.0.1"
	  }
	  ]
	}</pre>

200	Invalid input (returns `"StatusInfo": "DUPLICATE UNIQUE ID"`)
400	Bad request error
404	Not found
500	Internal server error
503	Service unavailable

Read All DeviceProgramMaps

This method returns all device-to-program maps in the device-to-program map library.

Syntax

- **HTTPS Method**: GET
- **Base URI**: /VirtualControl/config/api/DeviceProgramMap

Parameters

None

Responses

Response Content Type: Application/JSON

cURL Base Command

```
curl -X GET "https://[ServerURL]/VirtualControl/config/api/DeviceProgramMap" -H "accept: application/json" -H: "Authorization: [Token]"
```

Example cURL Command

```
curl -X GET "https://123.456.789.000/VirtualControl/config/api/DeviceProgramMap" -H "accept: application/json" -H: "Authorization: 1234567890"
```

Request URL

```
https://[ServerURL]/VirtualControl/config/api/DeviceProgramMap
```

Response Codes

Code	Description
200	Successful operation Example Response `{ "Device": { "Programs": { "DeviceProgramMapLibrary": { "DeviceProgramMapId1" { "UniqueId: "DeviceProgramMapId1", "MacAddress": "11:22:33:44:55:66", "DeviceIpId": "9", "ProgramInstanceId": "p003", "ProgramIpId": "10", "Status": "ONLINE", }, "DeviceProgramMapId2" { "UniqueId: "DeviceProgramMapId2", "MacAddress": "aa:bb:cc:dd:ee:ff", "DeviceIpId": "11", "ProgramInstanceId": "p001", "ProgramIpId": "12", "Status": "ONLINE", } } } } }`
404	Not found

Code	Description
500	Internal server error
503	Service unavailable

Delete DeviceProgramMap

This method deletes a device-to-program map from the device-to-program map library.

Syntax

- **HTTPS Method**: DELETE
- **Base URI**: /VirtualControl/config/api/DeviceProgramMap

Parameters

DELETE DeviceProgramMap Parameters

Name	Description
`body`	**Required.** JSON body parameter that deletes a new device-to-program map entry. Example Value `{ "ProgramInstanceId": "1", "MacAddress": "11:22:33:44:55:66", "DeviceIpId": "9", "ProgramIpId": "10" }`

The following body parameters may be included in the DELETE request:

DELETE DeviceProgramMap Body Parameters

Name	Description
`ProgramInstanceId`	Optional. String that sets the ID of the program instance to be deleted. Length must be between 1–64 characters.
`MacAddress`	Optional. String that sets the MAC (Media Access Control) address of the mapped device to be deleted.
`DeviceIpId`	Optional. String that sets the IP ID of the mapped device on the network to be deleted. Value must be between 2 and 65535.
`ProgramIpId`	Optional. String that sets the IP ID of the mapped program instance on the network to be deleted. Value must be between 2 and 65535.

Responses

Response Content Type: Application/JSON

cURL Base Command

```
curl -X DELETE "https://[ServerURL]/VirtualControl/config/api/DeviceProgramMap" -H "accept: application/json" -H: "Authorization: [Token]" -H "Content-Type: application/json" -d "{ \"[Parameter]\": \"[Value]\" }"
```

Example cURL Command

```
curl -X DELETE "https://123.456.789.000/VirtualControl/config/api/DeviceProgramMap" -H "accept: application/json" -H: "Authorization: 1234567890" -H "Content-Type: application/json" -d "{ \"ProgramInstanceId\": \"1\", \"MacAddress\": \"11:22:33:44:55:66\", \"DeviceIpId\": \"9\", \"ProgramIpId\": \"10\"}"
```

Request URL

```
https://[ServerURL]/VirtualControl/config/api/DeviceProgramMap
```

Response Codes

Code	Description

200	Successful operation
	
	Example Value
	
	{
	"Actions": [
	{
	"Operation": "set partial",
	"TargetObject": "DeviceProgramMapLibrary",
	"Results": [
	{
	"StatusInfo": Deleted",
	"object": "NULL"
	"StatusId": 0,
	"path": "Device.Programs.DeviceProgramMapLibrary"
	}
	],
	"Version": "2.0.1"
	}
	]
	}

200	Invalid input (returns `"StatusInfo": "INVALID ID"`)
400	Bad request error
404	Not found

Code	Description
500	Internal server error
503	Service unavailable

Read DeviceProgramMap

This method returns information about a specific device-to-program map in the device-to-program map library using **DeviceProgramMapId**.

Syntax

- **HTTPS Method**:GET
- **Base URI**: /VirtualControl/config/api/DeviceProgramMap/{DeviceProgramMapId}

Parameters

GET DeviceProgramMap/{DeviceProgramMapId} Parameters

Name	Description
`DeviceProgramMapId`	**Required.** String (path) that sets the ID of the device-to-program map that will be returned. Maximum length is 255 characters.

Responses

Response Content Type: Application/JSON

cURL Base Command

```
curl -X GET "https://[ServerURL]/VirtualControl/config/api/DeviceProgramMap/[DeviceProgramMapId]"
-H "accept: application/json" -H: "Authorization: [Token]"
```

Example cURL Command

```
curl -X GET
"https://123.456.789.000/VirtualControl/config/api/DeviceProgramMap/DeviceProgramMapId1" -H
"accept: application/json" -H: "Authorization: 1234567890"
```

Request URL

```
https://[ServerURL]/VirtualControl/config/api/DeviceProgramMap/[DeviceProgramMapId]
```

Response Codes

Code	Description

200	Successful operation
	
	Example Value
	
	{
	"Device": {
	"Programs": {
	"DeviceProgramMapLibrary": {
	"DeviceProgramMapId1" {
	"UniqueId: "DeviceProgramMapId1",
	"MacAddress": "11:22:33:44:55:66",
	"DeviceIpId": "dev03",
	"ProgramInstanceId": "p003",
	"ProgramIpId": "p02",
	"Status": "ONLINE"
	}
	}
	}
	}
	}

200	Invalid input (returns `"StatusInfo": "INVALID ID"`)
400	Bad request error
404	Not found
500	Internal server error
503	Service unavailable

Ethernet API

The Ethernet API is used to view the Ethernet status and settings for the Crestron Virtual Control server.

Read All Ethernet Objects

This method returns all Ethernet information stored in the Ethernet library.

Syntax

- **HTTPS Method**: GET
- **Base URI**: /VirtualControl/config/api/Ethernet

Parameters

None

Responses

Response Content Type: Application/JSON

cURL Base Command

```
curl -X GET "https://[ServerURL]/VirtualControl/config/api/Ethernet" -H "accept:
application/json" -H "Authorization: [Token]"
```

Example cURL Command

```
curl -X GET "https://123.456.789.000/VirtualControl/config/api/Ethernet" -H "accept:
application/json" -H "Authorization: 1234567890"
```

Request URL

```
https://[ServerURL]/VirtualControl/config/api/Ethernet
```

Response Codes

Code	Description

200	Successful operation
	
	Example Value
	
	{
	"Device": {
	"Ethernet": {
	"Adapters": [
	{
	"LinkStatus": "OK",
	"IPv4": {
	"Addresses": [
	{
	"SubnetMask": "255.255.255.0",
	"Address": "192.255.255.135",
	}
	],
	"Dnsservers": [
	"192.255.255.2"
	],
	"DefaultGateway": "192.255.255.2",
	"IsDhcpEnabled": "ON"
	},
	"Name": "ens33",
	"MacAddress": "11.22.33.44.55.66"
	}
	],
	"HostName": "ubuntu",
	"DomainName": "localdomain"
	}
	}
	}

404	Not found
500	Internal server error
503	Service unavailable

IpTableByPID API

The IpTableByPID API is used to view the Crestron Virtual Control IP Table for different programs instances by using **ProgramInstanceId**.

Read ProgramInstance

This method returns a specific IP table for the supplied **ProgramInstanceId**.

Syntax

- **HTTPS Method**: GET
- **Base URI**: /VirtualControl/config/api/IpTableByPID/{ProgramInstanceID}

Parameters

GET IpTableByPID/{ProgramInstanceId} Parameters

Name	Description
`ProgramInstanceId`	**Required.** String (path) that sets the ID of the program instance that will have its IP table returned. Maximum length is 255 characters.

Responses

Response Content Type: Application/JSON

cURL Base Command

```
curl -X GET "https://[ServerURL]/VirtualControl/config/api/IpTableByPID/[ProgramInstanceId]" -H "accept: application/json" -H "Authorization: [Token]"
```

Example cURL Command

```
curl -X GET "https://123.456.789.000/VirtualControl/config/api/IpTableByPID/P01" -H "accept: application/json" -H "Authorization: 1234567890"
```

Request URL

```
https://[ServerURL]/VirtualControl/config/api/IpTableByPID/[ProgramInstanceId]
```

Response Codes

Code	Description

200	Successful operation
	
	Example Value
	
	{
	"Device": {
	"Programs": {
	"IpTableByPID": {
	"IPTableByPIDGetId": {
	"UniqueId": "1",
	"ProgramInstanceId": "P01",
	"ProgramIpId": "12",
	"Model": "VC-4",
	"Description: "Iptable",
	"remote_ip": "192.255.255.4",
	"Status": "Online",
	"device_type": "1",
	"MacAddress": "11:22:33:44:55:66",
	"DeviceId": "1",
	"Hostname": "VC4",
	"SupportAssocation": ""
	}
	}
	}
	}
	}

200	Invalid input (returns `"StatusInfo": "INVALID ID"`)
404	Not found
500	Internal server error
503	Service unavailable

LicenseRegistry API

The LicenseRegistry API is used to view license information for the Crestron Virtual Control server.

Read All LicenseRegistry Objects

This method returns all licenses stored for devices in the license registry library.

Syntax

- **HTTPS Method**: GET
- **Base URI**: /VirtualControl/config/api/LicenseRegistry

Parameters

None

Responses

Response Content Type: Application/JSON

cURL Base Command

```
curl -X GET "https://[ServerURL]/VirtualControl/config/api/LicenseRegistry" -H "accept: application/json" -H "Authorization: [Token]"
```

Example cURL Command

```
curl -X GET "https://123.456.789.000/VirtualControl/config/api/LicenseRegistry" -H "accept: application/json" -H "Authorization: 1234567890"
```

Request URL

```
https://[ServerURL]/VirtualControl/config/api/LicenseRegistry
```

Response Codes

Code	Description

200	Successful operation
	
	Example Value
	
	{
	"Device": {
	"LicenseRegistry": {
	"Licenses": [
	{
	"Name": "AirMedia",
	"VendorId": "1",
	"ModuleId": "1",
	"Info": "",
	"Expiration": "123",
	"Key": "12345",
	"Count": "1"
	}
	],
	}
	}
	}

404	Not found
500	Internal server error
503	Service unavailable

ProgramInstance API

The ProgramInstance API is used to add, view, modify, and delete program instances in the Crestron Virtual Control server's program instance library.

Program instances allow the same program to be run in multiple rooms across the Crestron Virtual Control server, but each instance may be customized to fit the specific properties of the room (such as location and time zone).

Add ProgramInstance

This method adds a new program instance into the program instance library.

Syntax

- **HTTPS Method**: POST
- **Base URI**: /VirtualControl/config/api/ProgramInstance

Parameters

Parameter Content Type: Multipart/Form-Data

POST ProgramInstance Parameters

Name	Description
`Name`	**Required.** String (form data) that sets the name of the program instance. Maximum length is 255 characters.
`ProgramInstanceId`	**Required.** String (form data) that sets the program instance ID, which provides a path for the program instance. Length must be between 1 and 32 characters.
`ProgramLibraryId`	**Required.** String (form data) that sets the program library ID for the program instance. Length must be between 1 and 32 characters.
`Notes`	Optional. String (form data) that sets notes for the program instance. Maximum length is 255 characters.
`Level`	Optional. String (form data) that sets the access level of the program instance. Maximum length is 255 characters.
`Location`	Optional. String (form data) that sets the location (street address) where the program instance will be run. Maximum length is 255 characters.
`TimeZone`	Optional. String (form data) that sets the time zone where the program instance will be run. Maximum length is 255 characters.
`Latitude`	Optional. String (form data) that sets the latitude where the program instance will be run. Maximum length is 255 characters.
`Longitude`	Optional. String (form data) that sets the longitude where the program instance will be run. Maximum length is 255 characters.

Name	Description
`AddressSetsLocation`	Optional. Boolean (form data) that determines whether the address provided for `Location` is used to set the location properties automatically.
`UserFile`	Optional. A custom user file (form data) for the program instance. Files may be uploaded individually or zipped.

Responses

Response Content Type: Application/JSON

cURL Base Command

```
curl -X POST "https://[ServerURL]/VirtualControl/config/api/ProgramInstance" -H "accept: application/json" -H "Authorization: [Token]" -H "Content-Type: multipart/form-data" -F "[Parameter]=[Value]"
```

Example cURL Command

```
curl -X POST "https://123.456.789.000/VirtualControl/config/api/ProgramInstance" -H "accept: application/json" -H "Authorization: 1234567890" -H "Content-Type: multipart/form-data" -F "Name=ProgInstance1" -F "ProgramInstanceId=PI1"-F "ProgramLibraryId=Program01"
```

Request URL

```
https://[ServerURL]/VirtualControl/config/api/ProgramInstance
```

Response Codes

Code	Description

200	Successful operation
	Example Response
	{
	"Actions": [
	{
	"Operation": "set partial",
	"TargetObject": "ProgramLibrary",
	"Results": [
	{
	"StatusInfo": "SUCCESS",
	"object": {
	"id": 2,
	"Notes": "",
	"Level": "",
	"ProgramInstanceId" = "22",
	"Configuration Link: "",
	"ProgramLibraryId": "2",
	"Latitude": "41.0",
	"Status": "Running",
	"WorkingDirectory: "User",
	"XpanelUrl": "",
	"Longitude": "-73.93333",
	"Name": "Room01",
	"AddressSetsLocation": true,
	"Time Zone": "America/New_York",
	"Location": "NJC"
	},
	"StatusId": 0,
	"Path": "Devices.Programs.ProgramInstanceLibrary"
	}
	],
	"Version": "2.0.1"
	}
	]
	}

200	Invalid input (returns `"StatusInfo": "DUPLICATE ID"`)
400	Bad request error
404	Not found
500	Internal server error
503	Service unavailable

Read All ProgramInstances

This method returns all program instances in the program instance library.

Syntax

- **HTTPS Method**: GET
- **Base URI**: /VirtualControl/config/api/ProgramInstance

Parameters

None

Responses

Response Content Type: Application/JSON

cURL Base Command

```
curl -X GET "https://[ServerURL]/VirtualControl/config/api/ProgramInstance" -H "accept: application/json" -H "Authorization: [Token]"
```

Example cURL Command

```
curl -X GET "https://123.456.789.000/VirtualControl/config/api/ProgramInstance" -H "accept: application/json" -H "Authorization: 1234567890"
```

Request URL

```
https://[ServerURL]/VirtualControl/config/api/ProgramInstance
```

Response Codes

Code	Description

200	Successful operation
	Example Response
	{
	"Device": {
	"Programs": {
	"ProgramInstanceLibrary": {
	"ProgramInstanceId1": {
	"id": 2,
	"Notes": "",
	"Level": "",
	"Configuration Link: "",
	"ProgramLibraryId": "33",
	"Latitude": "41.0",
	"Status": "Running",
	"XpanelUrl": "",
	"WorkingDirectory: "User",
	"Longitude": "-73.93333",
	"ProgramInstanceId": "21",
	"Name": "progInstance RoomName2",
	"AddressSetsLocation": false,
	"Time Zone": "America/New_York",
	"Location": "NJC",
	"DebuggingEnabled": false
	},
	"ProgramInstanceId2": {
	"id": 1,
	"Notes": "",
	"Level": "",
	"Configuration Link: "",
	"ProgramLibraryId": "34",
	"Latitude": "41.0",
	"Status": "Running",
	"XpanelUrl": "",
	"WorkingDirectory: "User",
	"Longitude": "-33.93333",
	"ProgramInstanceId": "20",
	"Name": "progInstance RoomName1",
	"AddressSetsLocation": true,
	"Time Zone": "America/New_York",
	"Location": "NJC",
	"DebuggingEnabled": true
	},
	}
	}
	}
	}

404	Not found
500	Internal server error
503	Service unavailable

Modify ProgramInstance

This method modifies an existing program instance in the program instance library using **ProgramInstanceId**.

Syntax

- **HTTPS Method**: PUT
- **Base URI**: /VirtualControl/config/api/ProgramInstance

Parameters

PUT ProgramInstance Parameters

Name	Description
`ProgramInstanceId`	**Required.** String (path) that sets the ID of the program instance that will be modified.
`Name`	Optional. String (form data) that modifies the name of the program instance. Maximum length is 255 characters
`Notes`	Optional. String (form data) that modifies notes for the program instance. Maximum length is 255 characters.
`Level`	Optional. String (form data) that sets the access level of the program instance. Maximum length is 255 characters.
`Location`	Optional. String (form data) that sets the location (street address) where the program instance will be run. Maximum length is 255 characters.
`TimeZone`	Optional. String (form data) that sets the time zone where the program instance will be run. Maximum length is 255 characters.
`Latitude`	Optional. String (form data) that sets the latitude where the program instance will be run. Maximum length is 255 characters.
`Longitude`	Optional. String (form data) that sets the longitude where the program instance will be run. Maximum length is 255 characters.
`Start`	Optional. String (form data) used to start the specific program. The only valid value is `true`.
`Stop`	Optional. String (form data) used to stop the specific program. The only valid value is `true`.
`AddressSetsLocation`	Optional. Boolean (form data) that determines whether the address provided for `Location` is used to set the location properties automatically.
`UserFile`	Optional. A custom user file (form data) for the program instance. Files may be uploaded individually or zipped.
`DebuggingEnabled`	Optional. Boolean property (form data) that determines whether the debugging option for the program is turned on or off (SIMPL programs only).
`Restart`	Optional. String (form data) used to restart the specific program. The only valid value is `true`.

NOTE: Start and **Stop** are mutually exclusive parameters.

Responses

Response Content Type: Application/JSON

cURL Base Command

```
curl -X PUT "https://[ServerURL]/VirtualControl/config/api/ProgramInstance" -H "accept:
application/json" -H "Authorization: [Token]" -H "Content-Type: multipart/form-data" -d {"
[Parameter]": "[Value]"}
```

Example cURL Command

```
curl -X PUT "https://123.456.789.000/VirtualControl/config/api/ProgramInstance" -H "accept:
application/json" -H "Authorization: 1234567890" -H "Content-Type: multipart/form-data" -d
{"ProgramInstanceId":"21","Name":"ProgInstance1","Start":"true"}
```

Request URL

```
https://[ServerURL]/VirtualControl/config/api/ProgramInstance
```

Response Codes

Code	Description

200	Successful operation
	
	Example Value
	
	{
	"Actions": [
	{
	"Operation": "set partial",
	"TargetObject": "ProgramInstanceLibrary",
	"Results": [
	{
	"StatusInfo": "SUCCESS",
	"object": {
	"id": 2,
	"Notes": "",
	"Level": "",
	"ProgramInstanceId" = "22",
	"Configuration Link: "",
	"ProgramLibraryId": "2",
	"Latitude": "41.0",
	"Status": "Running",
	"WorkingDirectory: "User",
	"XpanelUrl": "",
	"Longitude": "-73.93333",
	"Name": "Room01",
	"AddressSetsLocation": true,
	"Time Zone": "America/New_York",
	"Location": "NJC",
	"DebuggingEnabled": true
	},
	"StatusId": 0,
	"Path": "Devices.Programs.ProgramInstanceLibrary"
	}
	],
	"Version": "2.0.1"
	}
	]
	}

200	Invalid input (returns `"StatusInfo": "INVALID ID"`)
400	Bad request error
404	Not found
500	Internal server error
503	Service unavailable

Read ProgramInstance

This method returns information about a specific program instance in the program instance library using **ProgramInstanceId**.

Syntax

- **HTTPS Method**: GET
- **Base URI**: /VirtualControl/config/api/ProgramInstance/{ProgramInstanceId}

Parameters

GET ProgramInstance/{ProgramInstanceId} Parameters

Name	Description
`ProgramInstanceId`	**Required.** String (path) that sets the ID of the program instance that will be returned.

Responses

Response Content Type: Application/JSON

cURL Base Command

```
curl -X GET "https://[ServerURL]/VirtualControl/config/api/ProgramInstance/[ProgramInstanceId]" -H "accept: application/json" -H "Authorization: [Token]"
```

Example cURL Command

```
curl -X GET "https://123.456.789.000/VirtualControl/config/api/ProgramInstance/PI1" -H "accept: application/json" -H "Authorization: 1234567890"
```

Request URL

```
https://[ServerURL]/VirtualControl/config/api/ProgramInstance/[ProgramInstanceId]
```

Response Codes

Code	Description

200	Successful operation
	
	Example Value
	
	{
	"Device": {
	"Programs": {
	"ProgramInstance": {
	"ProgramInstanceId1": {
	"id": 2,
	"Notes": "",
	"Level": "",
	"Configuration Link: "",
	"ProgramLibraryId": "33",
	"Latitude": "41.0",
	"Status": "Running",
	"XpanelUrl": "",
	"WorkingDirectory: "User",
	"Longitude": "-73.93333",
	"ProgramInstanceId": "21",
	"Name": "progInstance RoomName2",
	"AddressSetsLocation": false,
	"Time Zone": "America/New_York",
	"Location": "NJC",
	"DebuggingEnabled": true
	},
	}
	}
	}
	}
	}

200	Invalid input (returns `"StatusInfo": "INVALID ID"`)
404	Not found
500	Internal server error
503	Service unavailable

Delete ProgramInstance

This method deletes a program instance from the program instance library using **ProgramInstanceId**.

Syntax

- **HTTPS Method**: DELETE
- **Base URI**: /VirtualControl/config/api/ProgramInstance/{ProgramInstanceId}

Parameters

DELETE ProgramInstance/{ProgramInstanceId} Parameters

Name	Description
`ProgramInstanceId`	**Required.** String (path) that sets the ID of the program instance to delete.

Responses

Response Content Type: Application/JSON

cURL Base Command

```
curl -X DELETE "https://[ServerURL]/VirtualControl/config/api/ProgramInstance/
[ProgramInstanceId]" -H "accept: application/json" -H "Authorization: [Token]"
```

Example cURL Command

```
curl -X DELETE "https://123.456.789.000/VirtualControl/config/api/ProgramInstance/PI1" -H
"accept: application/json" -H "Authorization: 1234567890"
```

Request URL

```
https://[ServerURL]/VirtualControl/config/api/ProgramInstance/[ProgramInstanceId]
```

Response Codes

Code	Description

200	Successful operation
	
	Example Value
	
	{
	"Actions": [
	{
	"Operation": "set partial",
	"TargetObject": "ProgramLibrary",
	"Results": [
	{
	"StatusInfo": Deleted",
	"object": "NULL"
	"StatusId": 0,
	"path": "Device.Programs.ProgramInstanceLibrary"
	}
	],
	"Version": "2.0.1"
	}
	]
	}

200	Invalid input (returns `"StatusInfo": "INVALID ID"`)
400	Bad request error
404	Not found
500	Internal server error
503	Service unavailable

NOTE: When a program instance (room) is created, it will move from the initializing to running state in sequence. If a DELETE method is issued for the room during this time, an `INVALID DELETE OPERATION ERROR` is returned. Waiting a few seconds between the POST and DELETE requests avoids this error.

ProgramLibrary API

The ProgramLibrary API is used to add, view, modify, and delete programs in the Crestron Virtual Control server's program library.

Add Program

This method adds a new program to the program library.

Syntax

- **HTTPS Method**: POST
- **Base URI**: /VirtualControl/config/api/ProgramLibrary

Parameters

Parameter Content Type: Multipart/Form-Data

POST ProgramLibrary Parameters

Name	Description
`FriendlyName`	**Required.** String (form data) that sets the name of the program. Length must be between 1 and 64 characters.
`Notes`	Optional. String (form data) that sets notes for the program. Maximum length is 255 characters.
`Tags`	Optional. String (form data) that sets tags for the program. Maximum length is 255 characters.
`AppFile`	**Required.** The program application file (form data). May be uploaded alone or with other files. Valid file extensions: .cpz, .zip.
`MobilityFile`	Optional. A mobile project file for the program (form data). May be uploaded alone or with other files. Valid file extension: .zip.
`WebxPanelFile`	Optional. A web XPanel file for the program (form data). May be uploaded alone or with other files. Valid file extension: .zip.
`ProjectFile`	Optional. A touch screen project file for the program (form data). May be uploaded alone or with other files. Valid file extension: .vtz.
`CwsFile`	Optional. A program CWS configuration file (form data). May be uploaded alone or with other files. Valid file extensions: .zip, .tar, .tgz.

Responses

Response Content Type: Application/JSON

cURL Base Command

```
curl -X POST "https://[ServerURL]/VirtualControl/config/api/ProgramLibrary" -H "accept: application/json" -H "Authorization: [Token]" -H "Content-Type: multipart/form-data" -F "[Parameter]=[Value]"
```

Example cURL Command

```
curl -X POST "https://123.456.789.000/VirtualControl/config/api/ProgramLibrary" -H "accept:
application/json" -H "Authorization: 1234567890" -H "Content-Type: multipart/form-data" -F
"FriendlyName=Program01" -F "AppFile=prog01.zip"
```

Request URL

```
https://[ServerURL]/VirtualControl/config/api/ProgramLibrary
```

Response Codes

Code	Description
200	Successful operation

Example Response


```
{
  "Actions": [
    {
      "Operation": "set partial",
      "TargetObject": "ProgramLibrary",
      "Results": [
        {
          "StatusInfo": "SUCCESS",
          "object": {
            "ProgramId: "1",
            "FriendlyName": "Prog001",
            "Notes": "Test Program",
            "Tags": "",
            "AppFile": "SIMPSharpProgram1.cpz",
            "MobilityFile": "Mobility.zip",
            "WebxPanelFile": "WebXPanel.zip",
            "ProjectFile": "TE_DIN.vtz",
            "CwsFile": "EXProgram.zip",
            "AppFileTS": "2018-05-03 02:50:36:305441",
            "MobilityFileTS": "2018-05-03 02:50:36:305442",
            "WebxPanelFileTS": "2018-05-03 02:50:36:305443",
            "ProjectFileTS": "2018-05-03 02:50:36:305444",
            "CwsFileTS":"2018-05-03 02:50:36:305445"
          },
          "StatusId": 0,
          "Path": "Devices.Programs.ProgramInstanceLibrary"
        }
      ],
      "Version": "2.0.1"
    }
  ]
}
```

Code	Description
200	Invalid input (returns `"StatusInfo": "DUPLICATE ID"`)
400	Bad request error
404	Not found
500	Internal server error
503	Service unavailable

Read All Programs

This method returns all programs in the program library.

Syntax

- **HTTPS Method**: GET
- **Base URI**: /VirtualControl/config/api/ProgramLibrary

Parameters

None

Responses

Response Content Type: Application/JSON

cURL Base Command

```
curl -X GET "https://[ServerURL]/VirtualControl/config/api/ProgramLibrary" -H "accept: application/json" -H "Authorization: [Token]"
```

Example cURL Command

```
curl -X GET "https://123.456.789.000/VirtualControl/config/api/ProgramLibrary" -H "accept: application/json" -H "Authorization: 1234567890"
```

Request URL

```
https://[ServerURL]/VirtualControl/config/api/ProgramLibrary
```

Response Codes

Code	Description

200	Successful operation
	Example Response
	{
	"Device": {
	"Programs": {
	"ProgramLibrary": {
	"1": {
	"ProgramId: "1",
	"FriendlyName": "Prog001",
	"Notes": "Test Program",
	"Tags": "",
	"AppFile": "Oscilator.zip",
	"MobilityFile": " Mobility.zip ",
	"WebxPanelFile": "WebXPanel.zip",
	"ProjectFile": "TE_DIN.vtz",
	"CwsFile": "EXProgram.zip",
	"AppFileTS": "2018-05-03 02:50:36:305441",
	"MobilityFileTS": "2018-05-03 02:50:36:305442",
	"WebxPanelFileTS": "2018-05-03 02:50:36:305443",
	"ProjectFileTS": "2018-05-03 02:50:36:305444",
	"CwsFileTS": "2018-05-03 02:50:36:305445"
	"ProgramType": "SIMPL Windows",
	"ProgramName": "Oscilator.zip",
	"CompileDateTime": "8/20/2021 5:06 PM",
	"CresDBVersion": "205.05.004.00",
	"DeviceDBVersion": "200.75.001.00",
	"IncludeDatVersion": "2.17.035"
	}
	}
	}
	}
	}

404	Not found
500	Internal server error
503	Service unavailable

Modify Program

This method modifies an existing program in the program library using **ProgramId**.

Syntax

- **HTTPS Method**: PUT
- **Base URI**: /VirtualControl/config/api/ProgramLibrary

Parameters

PUT ProgramLibrary Parameters

Name	Description
`ProgramId`	**Required.** String (path) that sets the ID of the program that will be modified. Length must be between 1 and 32 characters.
`FriendlyName`	Optional. String (form data) that sets the name of the program. Length must be between 1 and 64 characters.
`Notes`	Optional. String (form data) that sets notes for the program. Maximum length is 255 characters.
`AppFile`	Optional. The program application file (form data). May be uploaded alone or with other files. Valid file extensions: .cpz, .zip.
`MobilityFile`	Optional. A mobile project file for the program (form data). May be uploaded alone or with other files. Valid file extension: .zip.
`WebxPanelFile`	Optional. A web XPanel file for the program (form data). May be uploaded alone or with other files. Valid file extension: .zip.
`ProjectFile`	Optional. A touch screen project file for the program (form data). May be uploaded alone or with other files. Valid file extension: .vtz.
`CwsFile`	Optional. A program CWS configuration file (form data). May be uploaded alone or with other files. Valid file extensions: .zip, .tar, .tgz.
`StartNow`	Optional. String (form data) used to start the program when the **AppFile** program file is uploaded. The only valid value is `true`.
`StartLater`	This parameter is not currently in use.

Responses

Response Content Type: Application/JSON

cURL Base Command

```
curl -X PUT "https://[ServerURL]/VirtualControl/config/api/ProgramLibrary" -H "accept: application/json" -H "Authorization: [Token]" -H "Content-Type: multipart/form-data" -d {"[Parameter]":"[Value]"}
```

Example cURL Command

```
curl -X PUT "https://123.456.789.000/VirtualControl/config/api/ProgramLibrary" -H "accept: application/json" -H "Authorization: 1234567890" -H "Content-Type: multipart/form-data" -d {"ProgramId":"ProgramId1","FriendlyName":"Program011","Notes":"For Testing"}
```

Request URL

```
https://[ServerURL]/VirtualControl/config/api/ProgramLibrary/
```

Response Codes

Code	Description
200	Successful operation

Example Value


```
{
  "Actions": [
    {
      "Operation": "set partial",
      "TargetObject": "ProgramLibrary",
      "Results": [
        {
          "StatusInfo": "SUCCESS",
          "object": {
            "ProgramId: "1",
            "FriendlyName": "Prog001",
            "Notes": "Test Program",
            "Tags": "",
            "AppFile": "SIMPSharpProgram1.cpz",
            "MobilityFile": "Mobility.zip",
            "WebxPanelFile": "WebXPanel.zip",
            "ProjectFile": "TE_DIN.vtz",
            "CwsFile": "EXProgram.zip",
            "AppFileTS": "2018-05-03 02:50:36:305441",
            "MobilityFileTS": "2018-05-03 02:50:36:305442",
            "WebxPanelFileTS": "2018-05-03 02:50:36:305443",
            "ProjectFileTS": "2018-05-03 02:50:36:305444",
            "CwsFileTS":"2018-05-03 02:50:36:305445"
          },
          "StatusId": 0,
          "Path": "Devices.Programs.ProgramLibrary"
        }
      ],
      "Version": "2.0.1"
    }
  ]
}
```


200	Invalid input (returns `"StatusInfo": "INVALID ID"`)

Code	Description
400	Bad request error
404	Not found
500	Internal server error
503	Service unavailable

Read Program

This method returns information about a specific program in the program library using **ProgramId**.

Syntax

- **HTTPS Method**: GET
- **Base URI**: /VirtualControl/config/api/ProgramLibrary/{ProgramId}

Parameters

GET ProgramLibrary/{ProgramId} Parameters

Name	Description
`ProgramId`	**Required.** String (path) that sets the ID of the program to return.

Responses

Response Content Type: Application/JSON

cURL Base Command

```
curl -X GET "https://[ServerURL]/VirtualControl/config/api/ProgramLibrary/[ProgramId]" -H
"accept: application/json" -H "Authorization: [Token]"
```

Example cURL Command

```
curl -X GET "https://123.456.789.000/VirtualControl/config/api/ProgramLibrary/ProgramId1" -H
"accept: application/json" -H "Authorization: 1234567890"
```

Request URL

```
https://[ServerURL]/VirtualControl/config/api/ProgramLibrary/[ProgramId]
```

Response Codes

Code	Description

200	Successful operation
	
	Example Value
	
	{
	"Device": {
	"Programs": {
	"ProgramLibrary": {
	"1": {
	"ProgramId: "1",
	"FriendlyName": "Prog001",
	"Notes": "Test Program",
	"Tags": "",
	"AppFile": "Oscilator.zip",
	"MobilityFile": " Mobility.zip ",
	"WebxPanelFile": "WebXPanel.zip",
	"ProjectFile": "TE_DIN.vtz",
	"CwsFile": "EXProgram.zip",
	"AppFileTS": "2018-05-03 02:50:36:305441",
	"MobilityFileTS": "2018-05-03 02:50:36:305442",
	"WebxPanelFileTS": "2018-05-03 02:50:36:305443",
	"ProjectFileTS": "2018-05-03 02:50:36:305444",
	"CwsFileTS":"2018-05-03 02:50:36:305445"
	"ProgramType": "SIMPL Windows",
	"ProgramName": "Oscilator.zip",
	"CompileDateTime": "8/20/2021 5:06 PM",
	"CresDBVersion": "205.05.004.00",
	"DeviceDBVersion": "200.75.001.00",
	"IncludeDatVersion": "2.17.035"
	}
	}
	}
	}
	}

200	Invalid input (returns `"StatusInfo": "INVALID ID"`)
404	Not found
500	Internal server error
503	Service unavailable

Delete Program

This method deletes a program from the program library using **ProgramId**.

Syntax

- **HTTPS Method**: DELETE
- **Base URI**: /VirtualControl/config/api/ProgramLibrary/{ProgramId}

Parameters

DELETE ProgramLibrary/{ProgramId} Parameters

Name	Description
`ProgramId`	**Required.** String (path) that sets the ID of the program to delete.

Responses

Response Content Type: Application/JSON

cURL Base Command

```
curl -X DELETE "https://[ServerURL]/VirtualControl/config/api/ProgramLibrary/[ProgramId]" -H
"accept: application/json" -H "Authorization: [Token]"
```

Example cURL Command

```
curl -X DELETE "https://123.456.789.000/VirtualControl/config/api/ProgramLibrary/ProgramId1" -H
"accept: application/json" -H "Authorization: 1234567890"
```

Request URL

```
https://[ServerURL]/VirtualControl/config/api/ProgramLibrary/[ProgramId]
```

Response Codes

Code	Description

200	Successful operation
	
	Example Value
	
	{
	"Actions": [
	{
	"Operation": "set partial",
	"TargetObject": "ProgramLibrary",
	"Results": [
	{
	"StatusInfo": Deleted",
	"object": "NULL"
	"StatusId": 0,
	"path": "Device.Programs.ProgramLibrary"
	}
	],
	"Version": "2.0.1"
	}
	]
	}

200	Invalid input (returns `"StatusInfo": "INVALID ID"`)
400	Bad request error
404	Not found
500	Internal server error
503	Service unavailable

NOTE: When a program instance (room) is created, it will move from the initializing to running state in sequence. If a DELETE method is issued for a program running in the room during this time, an `UNHANDLED ERROR` is returned. Waiting a few seconds between the POST and DELETE requests avoids this error.

Delete Program File

This his method deletes a file from a specific program in the program library without deleting the entire program.

Syntax

- **HTTPS Method**: DELETE
- **Base URI**: /VirtualControl/config/api/ProgramLibrary/{ProgramId}/{FileType}

Parameters

DELETE ProgramLibrary/{ProgramId}/{FileType} Parameters

Name	Description
`ProgramId`	**Required.** String (path) that sets the ID of the program that contains the file that will be deleted.
`FileType`	**Required.** String (path) that sets the type of the program file to be deleted (MobilityFile, WebxPanelFile, ProjectFile, CwsFile).

Responses

Response Content Type: Application/JSON

cURL Base Command

```
curl -X DELETE "https://[ServerURL]/VirtualControl/config/api/ProgramLibrary/[ProgramId]/
[FileType]" -H "accept: application/json" -H "Authorization: [Token]"
```

Example cURL Command

```
curl -X DELETE
"https://123.456.789.000/VirtualControl/config/api/ProgramLibrary/ProgramId1/ProjectFile" -H
"accept: application/json" "Authorization: 1234567890"
```

Request URL

```
https://[ServerURL]/VirtualControl/config/api/ProgramLibrary/[ProgramId]/[FileType]
```

Response Codes

Code	Description

200	Successful operation
	
	Example Value
	
	{
	"Actions": [
	{
	"Operation": "set partial",
	"TargetObject": "ProgramLibrary",
	"Results": [
	{
	"StatusInfo": Deleted",
	"object": "NULL"
	"StatusId": 0,
	"path": "Device.Programs.ProgramLibrary"
	}
	],
	"Version": "2.0.1"
	}
	]
	}

200	Invalid input (returns `"StatusInfo": "FILE NOT FOUND ERROR"`)
400	Bad request error
404	Not found
500	Internal server error
503	Service unavailable

StopDebugging API

The StopDebugging API is used to turn off debugging for all SIMPL programs that are running on the Crestron Virtual Control server.

Post Stop Debugging Operation

This method sets the stop debugging operation for the Crestron Virtual Control server.

Syntax

- **HTTPS Method**: POST
- **Base URI**: /VirtualControl/config/api/StopDebugging

Parameters

None

Responses

Response Content Type: Application/JSON

cURL Base Command

```
curl -X POST "https://[ServerURL]/VirtualControl/config/api/StopDebugging" -H "accept: application/json" -H "Authorization: [Token]"
```

Example cURL Command

```
curl -X POST "https://123.456.789.000/VirtualControl/config/api/StopDebugging" -H "accept: application/json" -H "Authorization: 1234567890"
```

Request URL

```
https://[ServerURL]/VirtualControl/config/api/StopDebugging
```

Response Codes

Code	Description

200	Successful operation
	
	Example Value
	
	{
	"Actions": [
	{
	"Operation": "set partial",
	"Results": [
	{
	"path": "Device.Programs.ProgramInstanceLibrary",
	"object": "Debugging Rooms Stopped",
	"StatusInfo": "SUCCESS",
	"StatusId": 0
	}
	],
	"TargetObject": "ProgramInstanceLibrary",
	"Version": "2.0.1"
	}
	]
	}

404	Not found
500	Internal server error
503	Service unavailable

SystemTable API

This method is used to view the Crestron Virtual Control server's system table.

Read All SystemTable Objects

This method returns all system table information stored in the system table library.

Syntax

- **HTTPS Method**: GET
- **Base URI**: /VirtualControl/config/api/SystemTable

Parameters

None

Responses

Response Content Type: Application/JSON

cURL Base Command

```
curl -X GET "https://[ServerURL]/VirtualControl/config/api/SystemTable" -H "accept:
application/json" -H "Authorization: [Token]"
```

Example cURL Command

```
curl -X GET "https://123.456.789.000/VirtualControl/config/api/SystemTable" -H "accept:
application/json" -H "Authorization: 1234567890"
```

Request URL

```
https://[ServerURL]/VirtualControl/config/api/SystemTable
```

Response Codes

Code	Description
200	Successful operation Example Value `"Device": { "Programs": { "SystemTable": { "HydrogenUrl": "https://fc.crestron.com.io/api/Device/Create", "NumProgramsRegistered": 0, "ID": 1, "OCSPState": 1, "OCSPTimeoutSeconds": 30, "CloudUrl": "", "NumProgramsRunning": 0, "HydrogenConnectedState": 0, "Valid": 0, "NumProgramsLicensed": 500, "SecureGatewayMode": 3 } } } }`
404	Not found
500	Internal server error
503	Service unavailable

Support

For technical support when using the Crestron Virtual Control REST API, contact Crestron True Blue support via phone, email, or chat as described at www.crestron.com/Support.

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Programming Guide — Doc. 8314C
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change without notice.