

# AVend Local Dispense API Guide

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## Revisions

Version	Date	Changes
V1.1.0	2020.10	Initial public release
V1.1.5	2021.04	Added Port option in the API Endpoint specs.
V1.2.0	2023.10	Included mode setting
V1.2.1	2023.11	Included HTML URL Encoding

## Overview

AVend Local Dispense API (“API”) provides an easy way to effect physical dispense of supported vending machines. This enables software-control dispense and opens up numerous new possibilities and use cases for vending machines.

The API is based on the HTTP REST model. It provides Cart functionality for multiple-item dispense (“Multi-Vend”)<sup>1</sup>. It supports Session concept for robust operation.

## Prerequisites

An AVend SmatVending kit (“AVend kit”) is properly integrated with the target vending machine.

The AVend API middleware (“middleware”) installed on the AVend kit establishes an API host with an endpoint for the API calls.

To use the API it is assumed that proper network setup is done and the calling app is able to reach the API endpoint provided by the middleware.

## API

### Syntax

***API\_Endpoint/?action=v1&code=v2&mode=v3***

Where:

***API\_Endpoint*** has the format of “http://host[:**portnum**]/avend”, where the host is the IP or hostname where AVend API middleware is installed; the default TCP port is 8080.

**action** is a required keyword, and **v1** is one of the following values:  
(**start** | **dispense** | **add** | **remove** | **clear**);

**code** is required when the action keyword is “**add**” or “**remove**”;  
it is optional when the action is “**dispense**”;  
Its **v2** is a number or character representing the keypress on the keypad.  
For symbolic symbols such as \* or # consider using their HTML URL  
Encoding. (e.g. %23 instead of # and %2A instead of \*)

**mode** is optional and only applies when the action is “**dispense**”  
Its **v3** is either **single** or **double** where **double** will pad the **code** provided  
with an extra 0 up to two digits. This is the default behavior if **mode** is  
not specified. **single** will not perform this padding.

**portnum** is required when the endpoint is installed at a specific TCP port  
**portnum**. The [:portnum] can be omitted if the API endpoint is set up  
using http default port 80.

Note that some OSES by default block port 80. In those cases, a specific  
TCP port will need to be specified.



## API Calls

API Call	Description
<a href="http://host:8080/avend?action=start">http://host:8080/avend?action=start</a>	Start a session to begin transaction. <b>All other API calls will have no effect unless a session has started.</b>  Inactive session timeouts in 5 minutes.
<a href="http://host:8080/avend?action=dispense&amp;code=v2">http://host:8080/avend?action=dispense&amp;code=v2</a>	Dispense selection v2 if cart is empty. Otherwise dispense the item(s) in cart.
<a href="http://host:8080/avend?action=dispense&amp;code=v2&amp;mode=single">http://host:8080/avend?action=dispense&amp;code=v2&amp;mode=single</a>	Dispense selection v2 if the cart is empty. Otherwise dispense the item(s) in cart but as a single keypress if v2 is a single digit.
<a href="http://host:8080/avend?action=add&amp;code=v2">http://host:8080/avend?action=add&amp;code=v2</a>	Add selection v2 to Cart.
<a href="http://host:8080/avend?action=dispense">http://host:8080/avend?action=dispense</a>	Dispense item(s) in Cart.
<a href="http://host:8080/avend?action=remove&amp;code=v2">http://host:8080/avend?action=remove&amp;code=v2</a>	Remove selection v2 from Cart.
<a href="http://host:8080/avend?action=clear">http://host:8080/avend?action=clear</a>	Clear Cart.

Table 1

Note: Swap “host” in the API Calls documented in Table 1 with the API host IP (or hostname if defined and reachable in the network).

## Examples

The following examples assume AVend middleware is running at IP 127.0.0.1.

### Single-Vend API calls

**Start** – <http://127.0.0.1:8080/avend?action=start>

**Dispense** – <http://127.0.0.1:8080/avend?action=dispense&code=37>

What physically happens

*Product at selection 37 is dispensed*

### Multi-Vend API calls<sup>1</sup>

**Start** – <http://127.0.0.1:8080/avend?action=start>

**Add 05 selection to Cart** –

<http://127.0.0.1:8080/avend?action=add&code=24>

**Add 01 selection to Cart**–

<http://127.0.0.1:8080/avend?action=add&code=05>

**Dispense** – <http://127.0.0.1:8080/avend?action=dispense>

What physically happens

*Product at selection 24 is dispensed*

*Product at selection 05 is dispensed.*

## Notes

1. Multi-Vend function requires vend-status integration between the AVend kit and the target vending machine.