

AVE - REST API

Introduction

The AVE system provides programmatic access through a simple and powerful REST-type application programming interface. To use this document, you should have a basic understanding of software development, HTTP, REST, and AVE.

Basic principles

Data exchange is based on the principle of REST (Representational State Transfer), ie easy-to-use communication via HTTP and JSON data format. According to the REST architecture, the server does not store any server-side client session information.

Development environment

The AVE test server, which is installed in the Geovap company, can be used for the development of the REST API. A test account with one meter is set up on this server, which communicates and provides data on a daily basis. The meter is of a different type (gas converter). For these reasons, the meter returns a different set of readings. However, the method of interrogation is identical and for development purposes this approach is quite sufficient. All examples of calls listed in this document are from this test server.

URL: <https://www.ave-system.com/website/api>

User name: **AveDemo**

Password: **demo**

To facilitate development, it is possible to download a sample application with a call to the basic functions of the REST API. The application is created in C# and is available for download, including source code from the link below:

<https://www.ave-system.com/Content/download/AveRestApiClient.zip>

Note: For testing purposes, we recommend using Postman application:

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

Logon

Login to the system.

Example request:

POST

<https://www.ave-system.com/website/api/logon.rails?name=AveDemo&password=demo>

Required parameters:

- *name*
- *password*

Example answer:

```
{
  "success": true,
  "sessionId": "b0ac7a76c6de01c0906373bb8382fd79",
  "culture": "en-US",
  "configurationProfile": "en",
  "user": {
    "name": "Test rozhraní REST API",
    "email": "",
    "phone": "",
    "logOnHistory": "2021-09-15T13:21:58.290",
    "systemRole": "InternetUser",
    "systemRoleDescription": "Internet AVE User",
    "internetRole": "Customer",
    "internetRoleDescription": "Customer",
    "passwordExpired": true,
    "activeDirectoryAuthentication": false
  }
}
```

Note: The value of the sessionId parameter is the session identifier used to authorize requests.

GetPlaces

Returns a list of all devices for which the user has permissions.

Example request:

GET

```
https://ave-system.com/website/api/GetPlaces.rails?sessionId=b0ac7a76c6de01c0906373bb8382fd79
```

Required parameters:

- *sessionId*- Session ID obtained after logging into the system

Example answer:

```
{
  "PageItems": [
    {
      "Id": 23547,
      "Eic": "EIC01",
      "CustomerName": "Vermac Example Device 1",
      "PlaceName": "Vermac Gas Systems - Device 1",
      "PayerName": "",
      "PayerId": "01",
      "CustomerId": "",
      "PlaceId": "0000000000000001",
      "DeviceLocation": "",
      "Terminated": false,
      "Region": "Vermac Gas ",
      "RegionId": 28,
      "ConnectionMethod": "none",
      "PurchaseCategory": "none",
      "ConvertCoefficient": 1.0,
      "DeviceType": "ELCOR plus",
      "IdentificationNumber": "",
      "LastData": "2021-09-15T06:00:00.000",
      "DeviceSerialNumber": "2046100930",
      "PlaceStreet": "Lough Cottage",
      "PayerStreet": "",
      "PlaceCity": "Portarlinton",
      "PayerCity": "",
      "PlaceZipCode": "Co. Laois, R32N8X9",
      "PayerZipCode": "",
      "Dealer": "",
      "ReadingCategory": "Readout A",
      "ValidatedBy": "",
      "ValidatedTill": "",
      "IsDataValidated": false,
    }
  ]
}
```

```
"ValidationNote":"","  
"Gps":"","  
"Device":57,  
"ReadRequestStatus":4,  
"ReadDescription":"","  
"Note":"","  
"Group":"","  
"Workplace":"","  
"HasTimeWindows":true,  
"HasBattery":true,  
"HasGasComposition":true,  
"BatteryCapacity":74.44,  
"BatteryVoltage":6.15,  
"DailyData":false,  
"ScadaId":"","  
"ParentDevice":"","  
  }  
],  
"Count":1,  
"TotalCount":1  
}
```

The Id parameter is a unique identification of the meter in the system. With this identification, the data is queried using the GetDeviceData method.

LastData indicates the timestamp of the last data read from the device.

GetDeviceData

Returns the data of the selected device

Example request:

GET

```
https://ave-system.com/website/api/GetDeviceData.rails?sessionId=b0ac7a76c6de01c0906373bb8382fd79&placeId=23547&dateFrom=2021-09-01&dateTo=2021-09-02
```

Required parameters:

- **sessionId** - Session ID obtained after logging in to the system
- **placeId** - The device ID obtained from the GetPlaces request
- **dateFrom** - The starting timestamp of requested data
- **dateTo** - The ending timestamp of requested data

Example answer:

```
[
  {
    "StandardTime": new Date(1630468800000),
    "Timestamp": new Date(1630468800000),
    "OperatingAmount": 3852256.7199999997,
    "ConvertAmount": 4107867.2862610775,
    "OperatingDifference": 270.0,
    "ConvertDifference": 291.38425350189209,
    "ConvertCoefficient": 1.0,
    "Correction": 0.0,
    "Temperature": 0.0,
    "Pressure": 1.1622658967971802,
    "SampleState": 0,
    "Consumption": 0.0,
    "Energy": null,
    "EnergyConsumption": null,
    "DeviceSerialNumber": "2046100930",
    "StateOfArchiveValues": null,
    "DealerLicenceNumberHash": 0,
    "ManuallyInserted": false,
    "Edited": false,
    "Imported": false,
    "UserId": 0,
    "LastChangeDate": null,
    "IsChangedRow": null,
    "Volume": null,
    "Battery_EVC": 93.2921371459961,
    "Battery": 0.0,
    "BatteryVoltage_EVC": 3.645359992980957,
    "BatteryVoltage": 0.0,
    "Temperture": 29.132522583007813,
    "Tint": 27.0,
    "QMax": false,
    "Vs": 0.0,
    "Vbs": 0.0,
    "Qb": 37.982868194580078,
    "C": 1.0933865308761597,
    "K": 1.00007164478302,
  }
]
```

```
"Flow": 34.95721435546875,  
"ZC": 0.99803376197814941,  
"ZBC": 0.9979628324508667,  
"GSM": 51.612113952636719,  
"SampleStateDescription": "OK"  
},  
{  
  "StandardTime": new Date(1630472400000),  
  .....  
}
```

Logoff

Log out of the system.

Example request:

POST GET

```
https://ave-system.com/website/api/LogOff.rails?sessionId=b0ac7a76c6de01c0906373bb8382fd79
```

Required parameters:

- **sessionId** - Session ID obtained after logging in to the system

Example answer:

```
{  
  "success": true  
}
```