

# Voltego

## REST-API: api.eless.

### Access

The e.less API is located at <https://api.eless.de> and uses client-based authentication for permission management. To authenticate any client, two methods are available:

- Bearer-based authentication for general API-communication
- Basic-authentication for Hooks

The API usually responds with json-encoded data.

### OAuth

The API version 2.1 uses a basic OAuth-implementation for 1st level client authentication. To get an access-token, it is necessary to be a registered user. Currently there is no way to register yourself. Please get into contact with us to receive your personal access information.

Being a registered user at e.less' API, the personal information consisting of `client_id` and `client_secret` can be used to request a token at <https://api.eless.de/oauth/token>. For example, this Postman request:

```
Request-Method: POST
CONTENT-TYPE: application/json
Body:
{
  grant_type: „client_credentials“,
  scope: „*“,
  client_id: [CLIENT_ID],
  client_secret: [CLIENT_SECRET]
}
```

The returned token must be used in the authorization header to get access to any API function.

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## LIST SPOT PRICES

```
METHOD: GET
path: /pfc/spot
query_parameter: [
  from: required|date_format:Y-m-d H:i
  to: optional|date_format:Y-m-d H:i
]
body_parameter: []
```

Returns a set of spot price values from the start timestamp [from] up to the newest data or the ending timestamp [to]. Every value is annotated with date and time of validity, where the time represents the begin of one hour validity. Currently spot values are given in a one-hour cycle.

## HISTORIC LOAD PROFILE PRICE INDICATION

```
METHOD: POST
path: /calculation/historic_indication
query_parameter: []
body_parameter: [
  file: required|[FILE]
  customer_id: required|numeric
  state: optional|required_if:[later usage as calculation object intended]
  unit: optional|regex:[kW|kWh|MW|MWh] // allows to specify the unit.
]
```

Calculates a price indication for the load profiles timespan. Requires SPOT data to be hold by the database, otherwise a flat spot average of the last 12 months is returned.

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## JSON-POST-API: [api2.eless.de](https://api2.eless.de)

### Access

The e.less API is located at <https://api2.eless.de/> and expects the following parameters as minimal input dataset:

Parameter name	Description
bearer_token	Bearer token returned by oauth-server.0Description1.2017
service	Name of the requested service
function	3.0 Indicator which functionality of a specific service should be requested 00 kWh

Request-Method: POST  
Data-Type: JSON

Please note: Due to refactoring measures, e.less' main api gateway at <https://api.eless.de/> uses a different architectural approach. Using the following description, it is mandatory to request the api2 endpoint. This endpoint will stay in production in the future, though it is suggested to use the more modern REST-API endpoint.

### OAUTH

The API version 2.0 uses a basic OAUTH-implementation for 1st level user authentication. To get an access-token, it is necessary to be a registered user. Currently there is no way to register yourself. Please get into contact with us to receive your personal access information.

Being a registered user at e.less' API, the personal information consisting of client\_id and client\_secret can be used to request a token at <https://api.eless.de/oauth/token>. For example, this Postman request:

Request-Method: POST  
CONTENT-TYPE: application/json

```
Body:  
{  
  grant_type: „client_credentials“,  
  scope: „*“,  
  client_id: [CLIENT_ID],  
  client_secret: [CLIENT_SECRET]  
}
```

The returned token must be used in the authorization header to get access to any API function.

# Voltego

## INPUT

e.less API currently supports two types of methods: One expects one or more parameters to be given as array, the other one does not expect any data to be given instead of the minimal input data set.

Example ajax-call to API:

```
$.ajax({
  type: „POST“,
  url: „https://api.eless.de/“,
  dataType: „json“,
  headers: {
    Authorization: „Bearer [BEARERTOKEN]“
  },
  data: {
    version: 1.0,
    service: [SERVICE],
    function: [FUNCTION],
    param: {id: [ID]}
  }
})
```

Parameter name	Description
param	Function parameters as array like {key: value}
Function	Optional parameter to request a specific version of the API

To ensure consistent functionality for a longer time period, please hand the parameter version to the API. This guarantees the requested method to be the same as you are expecting it to. If a specific version is no longer supported, all API users will be notified to update their applications.

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## LIST SPOT PRICES

```
service: PFCService
function: list_spots
param: [
  from: required|date_format:Y-m-d H:i
  to: required|date_format:Y-m-d H:i
]
```

Returns a set of spot price values from the start timestamp [from] up to the newest data or the ending timestamp [to]. Every value is annotated with date and time of validity, where the time represents the begin of one hour validity. Currently spot values are given in a one-hour cycle.

## HISTORIC LOAD PROFILE PRICE INDICATION

```
service: PricingService
function: historic_indication
param: [
  file: required|[FILE]
  customer_id: required|numeric
  state: optional|required_if:[later usage as calculation object intended]
  unit: optional|regex:{kW|kWh|MW|MWh} // allows to specify the unit.
]
```

Calculates a price indication for the load profiles timespan. Requires SPOT data to be hold by the database, otherwise a flat spot average of the last 12 months is returned.