INSTRUCTIONS MANUAL

MicroSERVER

Common Gateway Interface (CGI)

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1. Introduction

This document details the HTTP requests that will allow the user to interact with MicroSERVER for CGI processing, thus providing an interface between the Web server and client programs.

2. CGI Instructions

1. Authentication

Syntax : Python

```
import requests
server_uri = 'URI'
user = 'USER'
password = 'PASS'
query = 'QUERY'
resp = requests.post(server_uri + query, {'usr': user, 'pwd': password})
```

Syntax : AJAX

```
var user = 'USER';
var password = 'PASS';
var query = 'QUERY';
function on_response(data, status, xhr) {
    // do something
}
$.post(query, {usr: user, pwd: password}, on_response);
```

URI	IP address or hostname of the server hosting the database
USER	User login
PASS	User password associated to the user login
QUERY	Query according to PHP functions listed in the following document

Disclaimer
Use POST method for “usr” and “pwd” parameters for security reasons.

Exemple : Python query

```
import requests
server_uri = 'https://192.168.43.108'
user = 'username'
password = 'password'
query = '/get_variables?dev=1'
resp = requests.post(server_uri + query, {'usr': user, 'pwd': password})
```

Exemple : AJAX query

```
var user = 'username';
var password = 'password';
var query = '/get_variables?dev=1';
function on_response(data, status, xhr) {
    // do something
}
$.post(query, {usr: user, pwd: password}, on_response);
```

2. get_variables.php

This query retrieves the value of one or several variables.

Syntax of the query

Syntax

```
/get_variables.php?dev=DEV&var1=N1&var2=N2&...&varn=Nn
```

Parameter	Comment
DEV	ID of the device
N1, N2	ID (or address or name) of the variable from which the value is to be obtained. The same request allows to retrieve the value of one or several variables, with no limit

Information
You can use “dev” parameter OR “var” parameters, but only one of them is mandatory.

Syntax of the XML return script

Syntax

```
<update>
   <variable>
      <timestamp></timestamp>
      <rowid></rowid>
      <address></address>
      <name></name>
      <value></value>
      <fvalue></fvalue>
      <alarm></alarm>
      <ack></ack>
   </variable>
   <variable>
      <timestamp></timestamp>
      <rowid></rowid>
      <address></address>
      <name></name>
      <value></value>
      <fvalue></fvalue>
      <alarm></alarm>
      <ack></ack>
   </variable>
</update>
```

Tag	Comment
<timestamp>	Moment of the last change in the variable, measured in seconds since the first of September 1970
<rowid>	Variable ID index
<address>	Variable address
<name>	Variable name
<value>	Value of the variable, without format
<fvalue>	Value of the variable, including the format previously defined in MicroSERVER
<alarm>	0 when there are no active alarms associated to this variable and 1 if there are any active alarms associated to this variable
<ack>	0 when alarm isn't acknowledged and 1 if alarm is acknowledged

Exemple : Query

```
https://192.168.43.108/get_variables.php?dev=4&var1=17&var2=18
```

Exemple : XML return script

```
<update>
   <variable>
      <timestamp>1415788199.94717</timestamp>
      <rowid>17</rowid>
      <value>12</value>
      <address>%POW</address>
      <name>power</name>
      <fvalue>12 W</fvalue>
      <alarm>0</alarm>
      <ack>0</ack>
   </variable>
   <variable>
      <timestamp>1415788167.98588</timestamp>
      <rowid>18</rowid>
      <address>%POW</address>
      <name>power</name>
      <value>10</value>
      <fvalue>10 A</fvalue>
      <alarm>1</alarm>
      <ack>0</ack>
   </variable>
</update>
```

3. get_al.php

This query retrieves all the active alarms in MicroSERVER, or all active alarms associated to a variable or to a device.

Syntax of the query

Syntax

```
/get_al.php?dev=DEV&var=VAR
```

Parameter	Comment
DEV	ID of the device
VAR	ID (or address or name) of the variable from which the value is to be obtained.

Information
You can use “dev” parameter OR “var” parameters.

Syntax of the XML return script

Syntax

```
<update>
   <entry>
      <timestamp></timestamp>
      <log_index></log_index>
      <var_index></var_index>
      <dev_index></dev_index>
      <alarm></alarm>
      <ack_timestamp></ack_timestamp>
      <ack_user></ack_user>
      <ack_comment></ack_comment>
   </entry>
</update>
```

Tag	Comment
<timestamp>	Moment of the last change in the variable, measured in seconds since the first of September 1970
<log_index>	Entry ID of the log regarding alarm
<var_index>	ID index of the queried or associated variable
<dev_index>	Index of the device to which the variable belongs
<alarm>	Alarm label associated to the active alarm
<ack_timestamp>	Moment of alarm acknowledgment, if acknowledged; otherwise this field remains empty
<ack_user>	Identification of the user that has acknowledged the alarm, if acknowledged; otherwise this field remains empty
<ack_comment>	Comment related to the alarm acknowledgement indicated by the ack_user if acknowledged; otherwise this field remains empty

Exemple : Query

```
https://192.168.43.108/get_al.php?dev=4&var=10
```

Exemple : XML return script

```
<update>
   <entry>
      <timestamp>1415788199.94717</timestamp>
      <log_index>7693</log_index>
      <var_index>10</var_index>
      <dev_index>4</dev_index>
      <alarm>Communication default</alarm>
      <ack_timestamp></ack_timestamp>
      <ack_user></ack_user>
      <ack_comment></ack_comment>
   </entry>
</update>
```

4. get_bg.php

This query retrieves data from a start date and groups them according to the period requested for each variable.

Syntax of the query

Syntax

```
/get_bg.php?time=TIME&period=PERIOD&tz=TZ&var1=N1&var2=N2&...&varn=Nn
```

Parameter	Comment
TIME	Beginning of the period as timestamp
PERIOD	Type of period: - 1 = A year with data grouped by month - 2 = A month with data grouped by day - 3 = A day with data grouped by hour - 4 = An hour with data grouped by 5 minutes periods
TZ	Timezone string, for example “Europe/Paris”
N1, N2	ID (or address or name) of the variable from which the value is to be obtained. The same request allows to retrieve the value of one or several variables, with no limit

Information
“var1” parameter is mandatory.

Syntax of the XML return script

Syntax

```
<update>
   <entry>
      <var_index></var_index>
      <timestamp></timestamp>
      <value1></value1>
   </entry>
</update>
```

Tag	Comment
<var_index>	ID index of the queried variable
<timestamp>	Beginning of the period, measured in seconds since the first of September 1970
<value1>	Value of the variable, without format

Exemple : Query

```
https://192.168.43.108/get_bg.php?time=1415788199.94717&period=1&var=10
```

Exemple : XML return script

```
<update>
   <entry>
      <var_index>10</var_index>
      <timestamp>1415788199.94717</timestamp>
      <value1>4</value1>
   </entry>
   <entry>
      <var_index>10</var_index>
      <timestamp>1418380199.94717</timestamp>
      <value1>4</value1>
   </entry>
</update>
```

Information
The correct field name for “value” is <value1> and not <value>.

5. get_tr.php

This query retrieves a set of values over a defined period for each variable.

Syntax of the query

Syntax

```
/get_tr.php?mintime=MINTIME&maxtime=MAXTIME&np=NP&pval=PVAL&pmult=PMULT
&var1=N1&...&varn=Nn
```

Parameter	Comment
MINTIME	Beginning of the period as timestamp
MAXTIME	End of the period as timestamp
NP	Max limit of values to retrieve
N1, N2	ID (or address or name) of the variable from which the value is to be obtained. The same request allows to retrieve the value of one or several variables, with no limit
PVAL, PMULT	Period under the way “pval * pmult” seconds. For exemple, for "4 hours", pval = 4 et pmult = 3600.

Information
“var1” parameter is mandatory.

Syntax of the XML return script

Syntax

```
<update>
   <entry>
      <timestamp></timestamp>
      <rowid></rowid>
      <var_index></var_index>
      <value></value>
   </entry>
</update>
```

Tag	Comment
<timestamp>	Timestamp of the point, measured in seconds since the first of September 1970
<rowid>	ID of the log entry of the point
<var_index>	ID index of the queried variable
<value>	Value of the point, without format

Exemple : Query

```
https://192.168.43.108/get_tr.php?mintime=1415788199.94717&maxtime=14183
80199.94717&np=1&pval=4&pmult=3600&var1=10
```

Exemple : XML return script

```
<update>
   <entry>
      <timestamp>1415788199.94717</timestamp>
      <rowid>546</rowid>
      <var_index>10</var_index>
      <value>24</value>
   </entry>
   <entry>
      <timestamp>1418380199.94717</timestamp>
      <rowid>547</rowid>
      <var_index>10</var_index>
      <value>26</value>
   </entry>
</update>
```

6. get_log.php

This query retrieves a set of values over a defined period for each variable.

Syntax of the query

Syntax

```
/get_log.php?cat=CAT&lastid=LASTID&period=PERIOD&mintime=MINTIME&maxtime=MAXTIME&var1=N1&...&varn=Nn
```

Parameter	Comment
CAT	Category of the log to retrieve : - 2 = Events - 3 = Alarms - 4 = Values
LASTID	ID of the log entry of the point from which to retrieve following results
PERIOD	Period duration in seconds since current date.
MINTIME	Beginning of the period as timestamp
MAXTIME	End of the period as timestamp
N1, N2	ID (or address or name) of the variable from which the value is to be obtained. The same request allows to retrieve the value of one or several variables, with no limit

Information
If “period” is provided, “mintime” and “maxtime” are ignored.

Information
“var1” parameter is mandatory.

Syntax of the XML return script

Syntax

```
<log>
   <entry>
      <rowid></rowid>
      <dev_index></dev_index>
      <var_index></var_index>
      <var_address></var_address>
      <var_name></var_name>
      <value></value>
      <ack_timestamp></ack_timestamp>
      <ack_user></ack_user>
      <ack_comment></ack_comment>
      <timestamp></timestamp>
   </entry>
</log>
```

Tag	Comment
<rowid>	ID of the log entry of the point
<timestamp>	Timestamp of the point, measured in seconds since the first of September 1970
<dev_index>	ID index of the associated device (if no variable queried)
<var_index>	ID index of the queried variable
<var_address>	Address of the associated variable (if no variable queried)
<var_name>	Name of the associated variable (if no variable queried)
<value>	Value of the point, without format
<ack_timestamp>	Timestamp of the acknowledgment, measured in seconds since the first of September 1970 (if “cat” = 3)
<ack_user>	Username of the user who acknowledged (if “cat” = 3)
<ack_comment>	Comment of the acknowledgment (if “cat” = 3)
<timestamp>	Timestamp of the point, measured in seconds since the first of September 1970

Exemple : Query

```
https://192.168.43.108/get_log.php?cat=3&lastid=1234&period=60&var1=10
```

Exemple : XML return script

```
<log>
   <entry>
      <rowid>1235</rowid>
      <var_index>10</var_index>
      <value>1</value>
      <ack_timestamp>1415788199.94717</ack_timestamp>
      <ack_user>admin</ack_user>
      <ack_comment>ok</ack_comment>
      <timestamp>1415785429</timestamp>
   </entry>
</log>
```

7. set_variables.php

This query updates one or several variables.

Syntax of the query

Syntax

```
/set_variables.php?var1=N1&...&varn=Nn&value1=V1&...&valuen=Vn
```

Parameter	Comment
N1, N2	ID (or address or name) of the variable from which the value is to be obtained. The same request allows to retrieve the value of one or several variables, with no limit
V1, V2	Value of the variable regarding his order in the request as “var” parameter.

Information
“var1” parameter and “value1” parameter are mandatory.

Syntax of the XML return script

Syntax

```
<update>
   <variable>
      <status></status>
      <error></error>
   </variable>
</update>
```

Tag	Comment
<status>	"OK" or "ERR"
<error>	Corresponds to a numeric error code

Exemple : Query

```
https://192.168.43.108/set_variables.php?var1=10&var2=11&value1=25&value
2=27
```

Exemple : XML return script

```
<update>
   <variable>
      <status>OK</status>
   </variable>
   <variable>
      <status>ERR</status>
      <error>XXX</error>
   </variable>
</update>
```

8. set_user.php

This query updates the information related to the user logged in.

Syntax of the query

Syntax

```
/set_user.php?new_pwd=NPASS&locale=LOCALE&email=EMAIL&phone_number=PHONE&active_report_filter=ARF&inactive_report_filter=IRF
```

Parameter	Comment
NPASS	New password to set to the user login
LOCALE	Regional format as ISO 639-1 code to set to the user login
EMAIL	Email to set to the user login
PHONE	Phone number format to set to the user login
ARF, IRF	Active or inactive report filter period of the user login. Each period must be separated by a semicolon, and each period is composed of 4 fields: - First field: Weekday (Monday = 1, Sunday = 7) - Second field: Day of month (1 to 31) - Third field: Month (1 to 12) - Fourth field: Hour (0 to 23) Each field must be separated by space. You can put a value, or several separated by a comma, or a star to say "all". For exemple: “2,5 * * *;7 1 2,10 3” means all Tuesday or Friday of the year AND Sunday 1st on February or October at 3 AM.

Disclaimer
Only ‘fr’, ‘gb’ and ‘us’ ISO 639-1 code are supported.

Syntax of the XML return script

Syntax

```
<update>
   <variable>
      <status></status>
   </variable>
</update>
```

Tag	Comment
<status>	"OK" or "ERR"

Exemple : Query

```
https://192.168.43.108/set_user.php?new_pwd=newpass&locale=fr&email=cont
act@exemple.com&phone_number=0600000000&inactive_report_filter=2,5+*+*+*
;7+1+2,10+3
```

Information
Spaces must be replaced by “+” or “%20” in HTTP query to be considered as spaces.

Exemple : XML return script

```
<update>
   <variable>
      <status>OK</status>
   </variable>
</update>
```