

# PCVUE OCPP DRIVER AND PROJECT CONFIGURATION

› MAKING THE SUPERVISOR A CHARGING STATION MANAGEMENT SYSTEM (CSMS)

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Content :	Implementation of the OCPP protocol in PcVue.
Confidentiality:	C0

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## 1. Introduction

The scope of this document is to describe and explain how to set up the use of the OCPP driver, as well as how to install and configure the OCPP standard project.

The Open Charge Point Protocol (OCPP) is an application protocol for communication between Electric vehicle (EV) charging stations and a central management system, also known as a charging station network, like cell phones and cell phone networks.

The supervisor's OCPP driver supports the protocol revision 1.6 JSON.

Versions prior to OCPP 1.6 are not supported. Neither is the deprecated SOAP binding supported.

## 2. Preparing the driver

### 2.1 Deployment

The driver binaries are in the supervisor's BIN folder.

The main file is called svmgrOCPP.dll.

There is an OCPP folder to manually copy to the Modules folder.

### 2.2 Activation

To activate the driver task, it is necessary to modify the usrmgr.dat file in the supervisor's BIN folder with the following content:

```
[USRMGR\svmgrOCPP]  
DLL=svmgrOCPP.dll
```

There is a svmgrOCPP\_UsrMgr.dat file in the BIN folder with this information.

### 2.3 Configuring the task

The task is configured via a single file located in your project's C directory.

**USR\[YourProjectName]\C\OcppConfiguration.ini**

## 2.4 Namespace reservation

Namespace reservation assigns the rights for a portion of the HTTP URL namespace to a particular group of users. A reservation gives those users the right to create services that listen on that portion of the namespace. Reserving the URL namespace is important so that SV32 and thus the OCPP server can be launched without administrative privileges.

The HTTP endpoint on which the OCPP server is supposed to listen needs to be reserved for the user account under which the SV32 process is launched. This happens by executing a netsh command on the Windows command line or PowerShell.

```
netsh http add urlacl url=https://[hostname][port]/ user=[user account]
```

### Examples

```
netsh http add urlacl url=https://my-csms.local:8080/ user=dev
netsh http add urlacl url=https://+:8080/ user=Everyone
```

For further information please see:

<https://learn.microsoft.com/en-us/dotnet/framework/wcf/feature-details/configuring-http-and-https>

### 3. Configuration file structure

See below for the list of configurable options in the OcppConfiguration.ini file.

Most parameters are optional. Still, the names of all well-known charge points must be defined, each in a dedicated section.

```
OcppConfiguration.ini x
1  [General]
2  OCPP16Prefix=OCPP16
3  OCPP20Prefix=OCPP20
4  AttributeNumber=16
5  AttributeNumberStatusCode=3
6
7  [OcppBinding]
8  HttpEndpoint=http://localhost:8082/
9  UseHttpBasicAuthentication=0
10
11 [A_001]
12 ReceiveBufferSize=65535
13 HeartbeatInterval=30
14 HeartbeatTimeout=10
15 SendMessageTimeout=30
16 ReceiveMessageTimeout=30
17 Disabled=0
18 TriggerBootNotificationAtConnect=0
19 TriggerStatusNotificationAtConnect=0
20 DateTimeKind=Local
21 TimestampFormat=yyyy'-'MM'-'dd'T'HH':'mm':'ss.FFFK
22 SendConfigurationAtBoot=0
23 ConfigurationFile=A_001.json
24
123 [Proxy:3erPartySystem]
124 WebSocketsEndpoint=ws://my-other_CMSM:9990/
125 UseHttpBasicAuthentication=0
126
```

Overall, the file consists of the following sections:

Section	Cardinality	Description
General	1..1	General driver settings.
OCPPBinding	1..1	The TCP binding(s) on which the OCPP server shall listen. Multiple bindings are possible, for instance http and https, or bindings for accessing the server from inside and outside of a public/private network boundary.
ChargePoint	1..n	Settings specific to individual charge points. All charge points from which connections are accepted must be included in the configuration file. The name of the charge point is the name of the section.
Proxy	1..n	Settings specific to routing OCPP messages to a 3 <sup>rd</sup> party central system. The name of the section is Proxy:[Name].

The following settings are available:

Name	Scope	Description	Default value
AttributeNumber	General	The number of a variable's extended attribute which contains the OCPP mapping information.	16
OCPP16Prefix	General	Prefix used on the extended attribute to indicate the variable source is a OCPP1.6 charging station.	OCPP16
OCPP20Prefix	General	Prefix used on the extended attribute to indicate the variable source is a OCPP2.0 charging station.	OCPP20

AttributeNumberStatusCode	General	The number of a variable's extended attribute which additional status and error information will be written to, e.g., StatusNotification.Status in plaintext or StatusNotification.ErrorCode in plaintext.	3
ConfigurationDelimiter	General	Character used to delimit the configuration keys and values in GetConfiguration and ChangeConfiguration payloads or GetVariables and SetVariables payloads respectively	;
HTTPEndpoint	OCPPBinding	One or multiple HTTP endpoints to listen to. Wildcards are allowed. Multiple bindings are comma delimited (for example: http://localhost:80, https://localhost:443).	<a href="http://+:8080/">http://+:8080/</a>
UseHTTPBasicAuthentication	OCPPBinding	1 if HTTPBasicAuthentication shall be enabled, 0 if not.	0
Id	ChargePoint	Id of the charge point.	
HeartbeatInterval	ChargePoint	Heartbeat interval in seconds. Used in the boot notification response to tell the charge point which interval to use.	30
HeartbeatTimeout	ChargePoint	Interval in seconds before a charge point is	10

		<p>invalidated after an expected heartbeat message has not appeared.</p> <p>For example: HeartbeatInterval = 30s and HeartbeatTimeout = 10s</p> <p>⇒ Charge point will be invalidated 40 seconds after receiving the last heartbeat message.</p> <p>If set to 0 Heartbeat timeout will not be checked.</p>	
TimestampFormat	ChargePoint	<p>Defines the format of the timestamp that is returned by the heartbeat message.</p> <p>If omitted ISO8601 formatting is used ("2017-09-08T19:01:55.714942+03:00").</p>	
ReceiveMessageTimeout	ChargePoint	<p>Receive message timeout in seconds. Interval after which an error response is sent back to the charge point, in case that the CSMS is not able to process the request in an adequate time.</p> <p>Applicable for:</p>	30



		<ul style="list-style-type: none"> <li>- Authorize</li> <li>- StartTransaction</li> <li>- StopTransaction</li> <li>- ...</li> </ul> <p>As mentioned in the OCPP specification this setting shall also take into account possible constraints of the underlying network (mobile network connection for instance).</p> <p>Normally this value should be set to the same value as the heartbeat interval. The statement written in 6.4 of [A1] suggests that the Interval-property of the BootNotification confirmation can be interpreted as a sort of message timeout.</p>	
SendMessageTimeout	ChargePoint	<p>Send message timeout in seconds. Interval after which a previously sent message is discarded and responses to which are no longer accepted.</p> <p>Interval after which the outbound channel is no longer blocked.</p>	30
ReceiveBufferSize	ChargePoint	Websockets message receive buffer size.	65535
Disabled	ChargePoint	Used to temporarily disable a previously	0

		<p>configured Charge Point.</p> <p>Optional.</p> <p>0 = Enabled. 1 = Disabled.</p>	
TriggerBootNotificationAtConnect	ChargePoint	<p>Automatically triggers a BootNotification when a ChargePoint goes online.</p> <p>Used to synchronize the variables when the supervisor restarts.</p> <p>0 = Disabled. 1 = Enabled.</p>	0
TriggerStatusNotificationAtConnect	ChargePoint	<p>Automatically triggers a StatusNotification when a ChargePoint goes online.</p> <p>Used to synchronize the variables when the supervisor restarts.</p> <p>0 = Disabled. 1 = Enabled.</p>	0
DateTimeKind	ChargePoint	<p>Used to define in which format the supervisor sends the timestamps of BootNotification response and Heartbeat response to the charge point.</p> <p>Possible values: Local Utc</p>	Local
SendConfigurationAtBoot	ChargePoint	Sends a predefined set of configuration	0

		<p>settings to the charge point when a BootNotification is received.</p> <p>0 = Disabled. 1 = Enabled.</p>	
ConfigurationFile	ChargePoint	<p>The file that contains the predefined set of configuration settings to send when a BootNotification is received from the charge point.</p> <p>The file must be in JSON format.</p> <p>It is by default located in the C-folder of the PcVue project, but relative paths are also allowed.</p> <p>Example (CP3211.json):</p> <pre>{   "AuthorizationCacheEnabled": false,   "HeartbeatInterval": 60000 }</pre> <p>Multiple charge points may use the same configuration file.</p> <p>If SendConfigurationAtBoot is enabled this setting becomes mandatory.</p>	

TraceEnabled	ChargePoint	Only so-called "information" traces and normal logs are filtered with this option. All warning and error traces will be displayed regardless of the configuration. A PcVue bit variable can be used to activate traces in a charge point. The default being 0 if the option is not present	0 = Disabled. 1 = Enabled.
WebSocketsEndpoint	Proxy	The endpoint URL of a 3 <sup>rd</sup> party central system.	
ReconnectInterval	Proxy	The interval in seconds after which a new attempt is made to connect to the 3 <sup>rd</sup> party system.	30
UseHttpBasicAuthentication	Proxy	1 if HTTPBasicAuthentication shall be enabled, 0 if not.	0
Password	Proxy	The password used to authenticate at the 3 <sup>rd</sup> party system. The password is the same for all outgoing connections to this system.	
SendMessageTimeout	Proxy		30
ReceiveMessageTimeout	Proxy		30

## Note

Each section must include at least one attribute to be recognized as such. If no other settings are configured for a charge point it is recommended to set at minimum the Disabled attribute:

```
[ChargePointId]
Disabled=0
```

## 4. Functional extent

### 4.1 Supported Messages

MESSAGE	PROFILE						MISC	
	CORE	FIRMWARE MANAGEMENT	LOCAL AUTH LIST MANAGEMENT	REMOTE TRIGGER	RESERVATION	SMART CHARGING	Initiated by...	Proceeded by / Responded by...
Authorize	X						C	SV
BootNotification	X						C	MGR
ChangeAvailability	X						S	
ChangeConfiguration	X						S	
ClearCache	X						S	
DataTransfer	X						C/S	MGR
GetConfiguration	X						S	
Heartbeat	X						C	MGR
MeterValues	X						C	MGR
RemoteStartTransaction	X						S	
RemoteStopTransaction	X						S	
Reset	X						S	
StartTransaction	X						C	SV

StatusNotification	X						C	MGR
StopTransaction	X						C	SV
UnlockConnector	X						S	
GetDiagnostics		X					S	
DiagnosticsStatusNotification		X					C	MGR
FirmwareStatusNotification		X					C	MGR
UpdateFirmware		X					S	
GetLocalListVersion			X				S	
SendLocalList			X				S	
CancelReservation				X			S	
ReserveNow				X			S	
ClearChargingProfile					X		S	
GetCompositeSchedule					X		S	
SetChargingProfile					X		S	
TriggerMessage						X	S	

X = Supported

O = Not supported

C = Client (Charge Point)

S = Server (Central System)

MGR = Supervisor OCPP Driver

SV = Supervisor (the SV project is supposed to trigger a call response)

## 5. Logging and Tracing

All default log messages of the OCPP driver are written to the SV32 event viewer and thus to the Trace.log file.

This includes all log messages with the log level FATAL, WARNING and INFORMATION.

Additional traces can be activated in the project via SCADA Basic. These custom trace flags can be activated according to the table below:

Type	Bit mask	Log Level
Raw message exchange CP	0x0001	Bit 00
Raw message exchange CSMS *	0x0002	Bit 01
Incoming CP requests	0x0400	Bit 10
Outgoing requests to CP	0x0800	Bit 11
Incoming CP responses	0x1000	Bit 12
Outgoing responses to CP	0x2000	Bit 13
Outgoing CSMS requests *	0x4000	Bit 14
Incoming CSMS requests *	0x8000	Bit 15
Outgoing CSMS responses *	0x10000	Bit 16
Incoming CSMS responses *	0x20000	Bit 17

\*) proxy connections

The SCADA Basic verb to trigger the traces is composed as follows:

```
TRACE([On/Off], [svMgrNumber], [FlagBit]);
```

Where

- 1/0    1: Turn ON the additional trace  
         0: Turn OFF the additional trace
- 11    svMgr order            11: 1st svMgr launched  
         ...  
         18: 8th svMgr launched

### Example

```
TRACE(1, 11, "FFFF");            ' Enable all traces for svMgr 1
TRACE(0, 11, "FFFF");            ' Disable all traces for svMgr 1
```

Make sure to disable any additional traces once they are no longer needed.

## 6. Alarming and logging

It is evident that the information contained in the payload of a StatusNotification message needs to be used by the SCADA project for alarming and logging.

Therefore the OCPP driver can set an alarm variable in case. The value of the alarm variable is ON, when the received ChargePointStatus code is FAULTY (enum value 8). The value of the alarm variable is set to OFF, when the received ChargePointStatus code is any other enum value.

Furthermore, the driver writes the string representation of the ChargePointErrorCode into an extended attribute of this variable (by default, extended attribute 3) when the alarm transitions to the value ON.

It is further advised to the project designer to include additional details about the charge point error in other extended attributes. The Application Architect library that is shipped with the OCPP driver maps the text contents of the INFO variable onto extended attribute 4 and the text contents of the VENDORERRORCODE variable onto extended attribute 5. All extended attributes are cleared when the ChargePointStatus code returns to a value other than FAULTY.

If needed a second variable can be configured to track all status changes of a charge point connector.

Similar to the alarm variable the log variable will transition from 0 to 1 every time a status change occurs. The text representation of the ChargePointStatus shall be written to an extended attribute (by default, extended attribute 3).

It is further advised to the project designer to include additional details about the charge point status in other extended attributes. The Application Architect library that is shipped with the OCPP driver shall map the text contents of the Info variable onto extended attribute 4.



## 7. Using the OCPP Shared library SH\_EV\_Charging

After successfully configuring the OCPP driver, start can start your new project.  
The library SH\_EV\_Charging is installed with PcVue. This library contains:

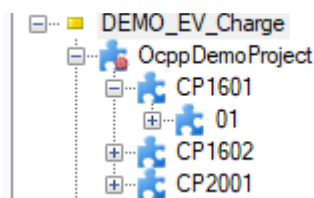
### 7.1 List of configuration items

This library contains:

- Application Architect Templates and parameters:
  - Variables for OCPP communication and for Smart Charging features
  - Expressions
  - Events
  - Associated labels
- SCADA Basic programs
- Symbols
- Mimic templates
- Images

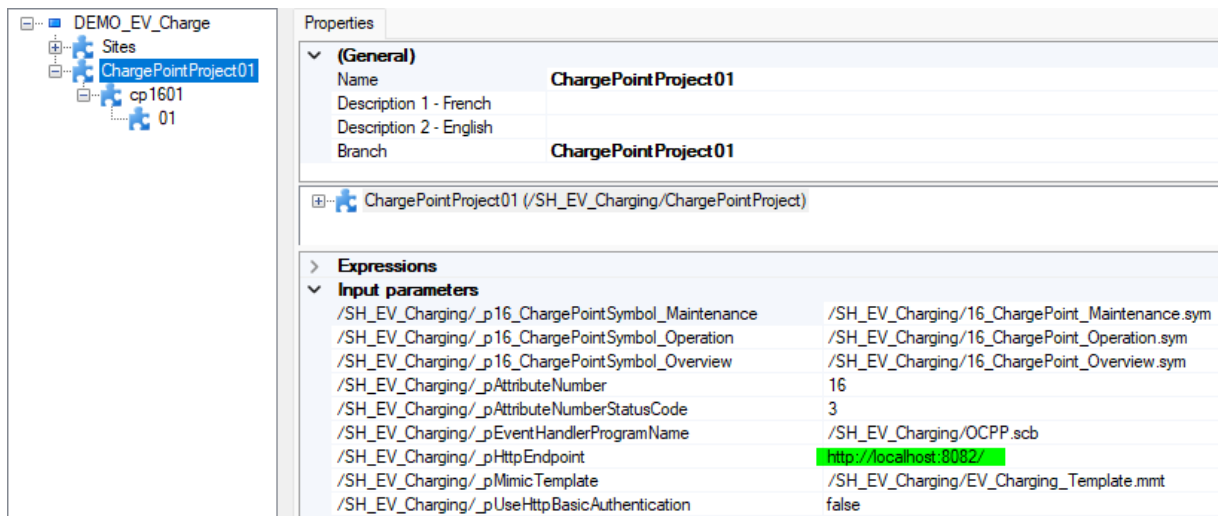
Open the Application Architect and add a template instance of type **“/SH\_EV\_Charging/ChargePointProject”**.

Then, for each of the charge points to connect add a template instance of type **“/SH\_EV\_Charging/ChargePoint”**, and for each of the charge point’s connectors add a template instance of type **“/SH\_EV\_Charging/Connector”**.



## 7.2 Mandatory input parameters

› /SH\_EVCharging/\_pHttpEndpoint:

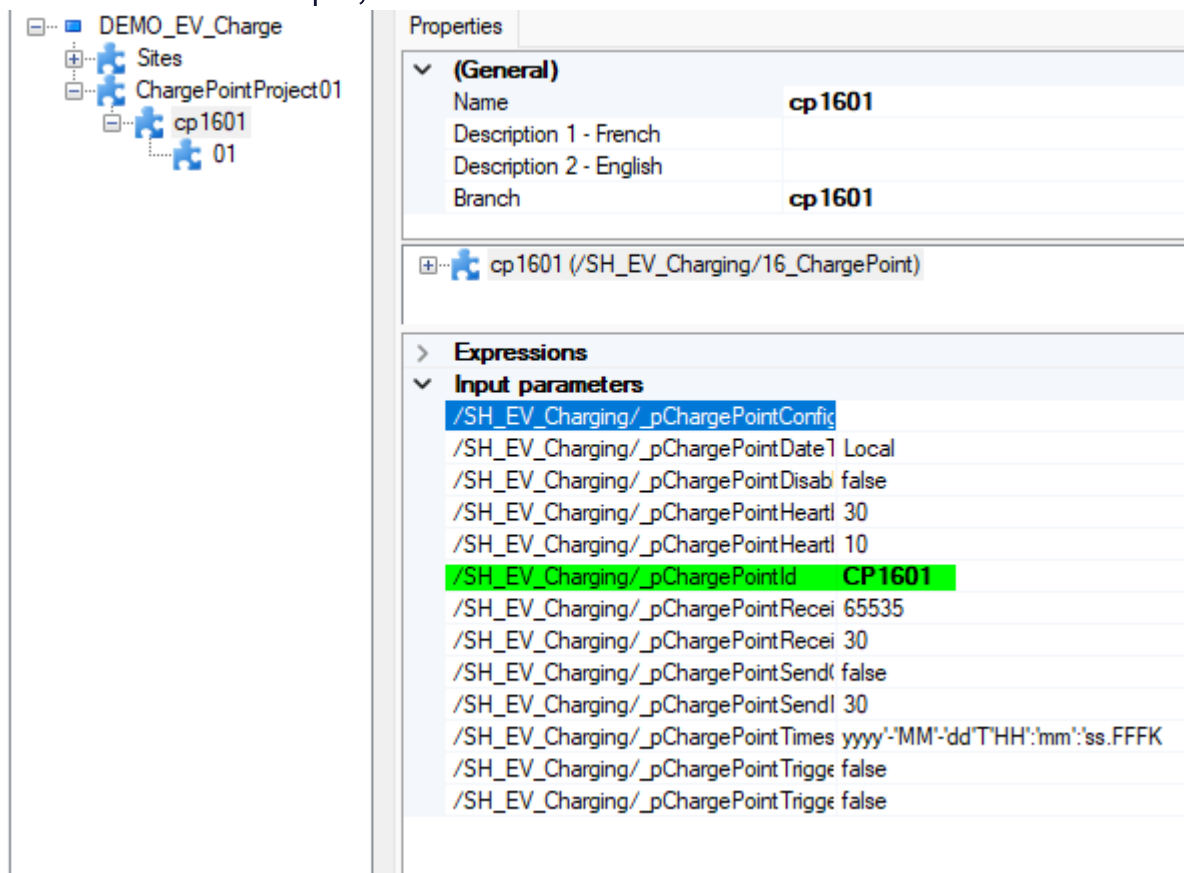


The screenshot shows the configuration for 'ChargePointProject01' under 'DEMO\_EV\_Charge'. The 'Properties' pane is open, showing the 'General' tab. The 'Name' is 'ChargePointProject01', 'Description 1 - French' is 'ChargePointProject01', 'Description 2 - English' is 'ChargePointProject01', and 'Branch' is 'ChargePointProject01'. Below the 'General' tab, there is a list of 'Expressions' under 'Input parameters'.

Expression	Value
/SH_EV_Charging/_p16_ChargePointSymbol_Maintenance	/SH_EV_Charging/16_ChargePoint_Maintenance.sym
/SH_EV_Charging/_p16_ChargePointSymbol_Operation	/SH_EV_Charging/16_ChargePoint_Operation.sym
/SH_EV_Charging/_p16_ChargePointSymbol_Overview	/SH_EV_Charging/16_ChargePoint_Overview.sym
/SH_EV_Charging/_pAttributeNumber	16
/SH_EV_Charging/_pAttributeNumberStatusCode	3
/SH_EV_Charging/_pEventHandlerProgramName	/SH_EV_Charging/OCPP.scb
/SH_EV_Charging/_pHttpEndpoint	http://localhost:8082/
/SH_EV_Charging/_pMimicTemplate	/SH_EV_Charging/EV_Charging_Template.mmt
/SH_EV_Charging/_pUseHttpBasicAuthentication	false

› /SH\_EVCharging/\_pChargePointId:

For each charge point instance, the id of the charge point must be written in the Input Parameter. For example, CP1601

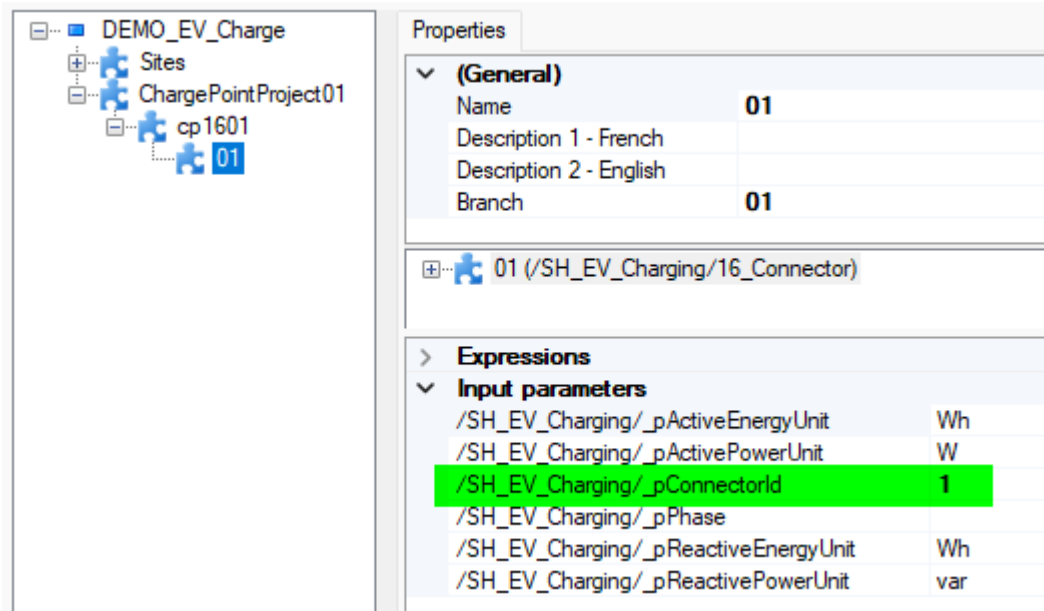


The screenshot shows the configuration for 'cp1601' under 'DEMO\_EV\_Charge'. The 'Properties' pane is open, showing the 'General' tab. The 'Name' is 'cp1601', 'Description 1 - French' is 'cp1601', 'Description 2 - English' is 'cp1601', and 'Branch' is 'cp1601'. Below the 'General' tab, there is a list of 'Expressions' under 'Input parameters'.

Expression	Value
/SH_EV_Charging/_pChargePointConfig	/SH_EV_Charging/16_ChargePointConfig
/SH_EV_Charging/_pChargePointDate1	Local
/SH_EV_Charging/_pChargePointDisab	false
/SH_EV_Charging/_pChargePointHeart1	30
/SH_EV_Charging/_pChargePointHeart1	10
/SH_EV_Charging/_pChargePointId	CP1601
/SH_EV_Charging/_pChargePointRecei	65535
/SH_EV_Charging/_pChargePointRecei	30
/SH_EV_Charging/_pChargePointSend	false
/SH_EV_Charging/_pChargePointSend	30
/SH_EV_Charging/_pChargePointTimes	yyyy'-MM'-dd'T'HH':mm':ss.FFFK
/SH_EV_Charging/_pChargePointTrigge	false
/SH_EV_Charging/_pChargePointTrigge	false

› /SH\_EVCharging/\_pConnectorId

For each connector instance you must enter the connector id (“/SH\_EVCharging/\_pConnectorId”), starting with index 1, for the first connector of a charge point. A charge point must have at least one connector.



The screenshot shows the PcVue configuration interface. On the left, a tree view displays the project structure: DEMO\_EV\_Charge > Sites > ChargePointProject01 > cp1601 > 01. The right pane shows the properties of the selected connector instance.

**Properties**

**(General)**

Name	01
Description 1 - French	
Description 2 - English	
Branch	01

01 (/SH\_EV\_Charging/16\_Connector)

**Expressions**

**Input parameters**

/SH_EV_Charging/_pActiveEnergyUnit	Wh
/SH_EV_Charging/_pActivePowerUnit	W
/SH_EV_Charging/_pConnectorId	1
/SH_EV_Charging/_pPhase	
/SH_EV_Charging/_pReactiveEnergyUnit	Wh
/SH_EV_Charging/_pReactivePowerUnit	var

› If required for each phase to monitor an additional template instance of type \_MeterValues can be added to the connector. The parameter (“/SH\_EVCharging/\_pPhase”) must be entered appropriately. The following values are valid:

- › L1
- › L2
- › L3
- › L1L2
- › L2L3
- › L3L1
- › L1N
- › L2N
- › L3N
- › N

It is advisable to unselect an unused meter value for each phase.

DEMO\_EV\_Charge

Sites

ChargePointProject01

cp1601

01

L1

Properties

(General)

Name

L1

Description 1 - French

Description 2 - English

Branch

L1

L1 (/SH\_EV\_Charging/\_16\_MeterValues)

Global parameters

Current.Export

Current.Import

Current.Offered

Energy.Active.Export.Interval

Energy.Active.Export.Register

Energy.Active.Import.Interval

Energy.Active.Import.Register

Energy.Active.Import.RegisterLocation

Energy.Reactive.Export.Interval

Energy.Reactive.Export.Register

Energy.Reactive.Import.Interval

Energy.Reactive.Import.Register

Frequency

Power.Active.Export

Power.Active.Import

Power.Factor

Power.Offered

Power.Reactive.Export

Power.Reactive.Import

RPM

SoC

Temperature

Voltage

Expressions

Input parameters

/SH\_EV\_Charging/\_pActiveEnergyUnit

Wh

/SH\_EV\_Charging/\_pActivePowerUnit

W

/SH\_EV\_Charging/\_pPhase

L1

/SH\_EV\_Charging/\_pReactiveEnergyUnit

Wh

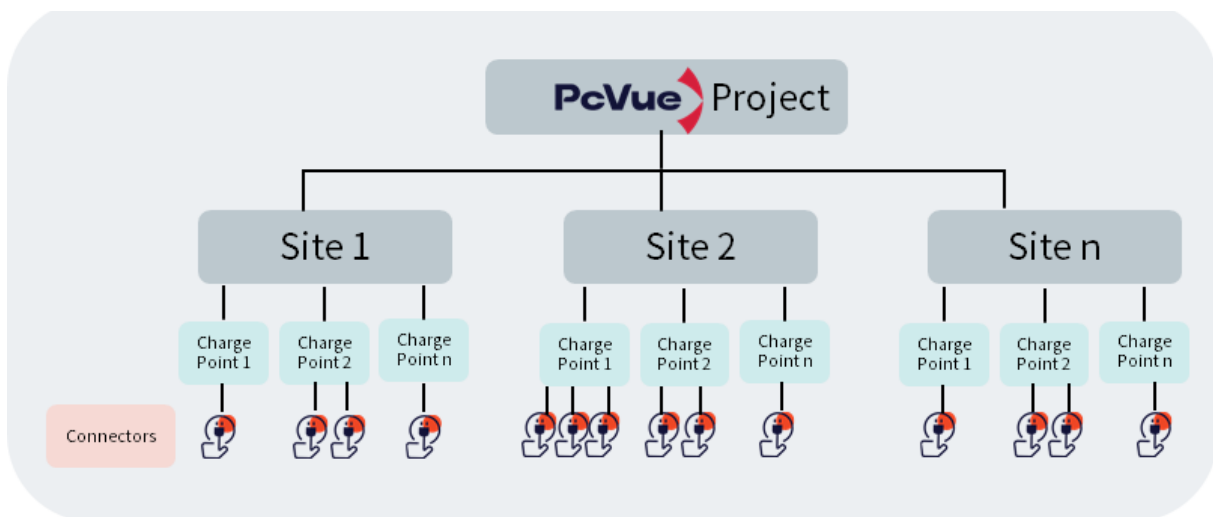
/SH\_EV\_Charging/\_pReactivePowerUnit

var

## 8. Using the OCPP local library L\_DEMO\_EV\_Charging

To provide greater flexibility for modifications in the DEMO\_EV\_Charging project, a local library named L\_DEMO\_EV\_Charging has been created for this project. This library is continuously updated with new functions for the project, such as enabling the possibility of having several independent sites within the same project. To support this functionality, a new hierarchy with four levels has been introduced:

1. **Project** (one)
2. **Sites** (several)
3. **Charge Points** (several)
4. **Connectors** (several)



### 8.1 List of configuration items

This library contains:

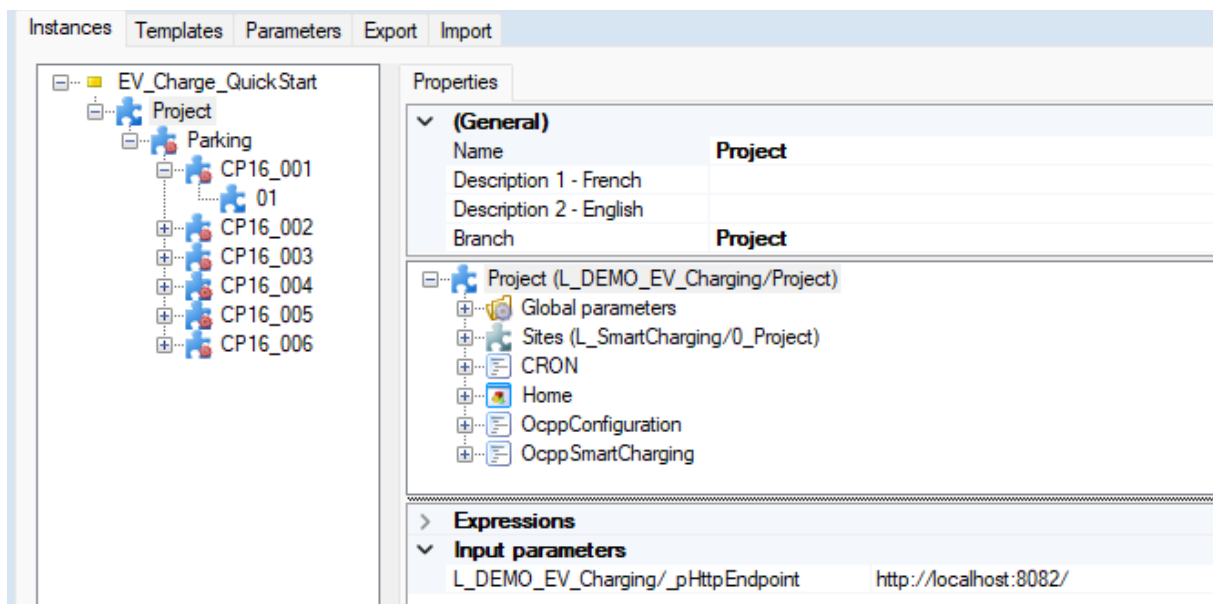
- › Application Architect Templates and parameters
  - Variables for OCPP communication and for Smart Charging features
  - Expressions
  - Events
  - Cyclic functions
  - Associated labels
  - Files
- › SCADA Basic programs

- › Symbols
- › Mimic template
- › Images

## 8.2 Application Architect instantiation

The hierarchy of instances is essential for successfully creating a complete and functional project with this library. Proper organization and structuring of the instances ensure seamless integration and efficient operation

### 8.2.1 L\_DEMO\_EV\_Charging/Project

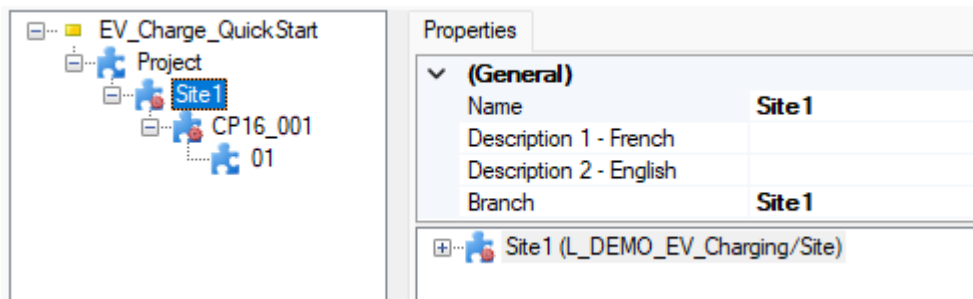


This instance contains all the configuration files of the project.

The mandatory input parameter **L\_DEMO\_EV\_Charging/\_pHttpEndpoint** must be changed from its default value to its actual value: the IP address or hostname of the computer hosting the PcVue project, along with the port used to communicate with the charging points.

### 8.2.2 L\_DEMO\_EV\_Charging/Site

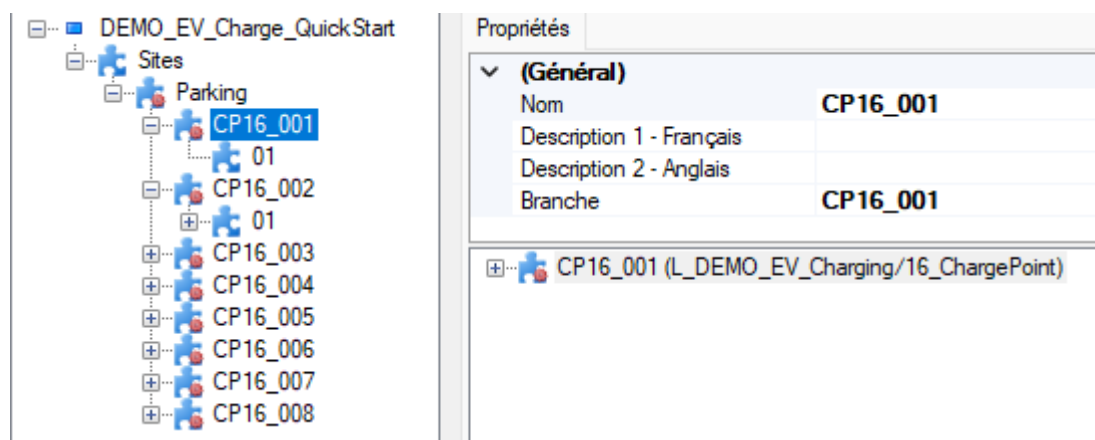
This instance contains graphical configuration for the project.



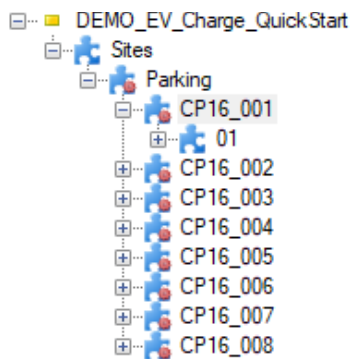
### 8.2.3 L\_DEMO\_EV\_Charging/16\_ChargePoint

This instance contains the configuration of charge point variables, events and expressions.

For each site, maintain the same name prefix for the charge point instance and use an increasing numbering format (XXX), starting from 001:



- If you can match your charge point ID with the instance name (e.g., CP16\_001), you do not need to set anything in the L\_DEMO\_EV\_Charging/\_pChargePointId\_ini input parameter. The variables will automatically use the instance name for mapping.



Properties

(General)

Name

CP16\_001

Description 1 - French

Description 2 - English

Branch

CP16\_001

\_GetLocalListVersion (L\_DEMO\_EV\_Charging/\_16\_GetLocalListVersion)

\_ReserveNow (L\_DEMO\_EV\_Charging/\_16\_ReserveNow)

\_Reset (L\_DEMO\_EV\_Charging/\_16\_Reset)

\_SetChargingProfile (L\_DEMO\_EV\_Charging/\_16\_SetChargingProfile)

\_StatusNotification (L\_DEMO\_EV\_Charging/\_16\_StatusNotification)

Global parameters

Alarm

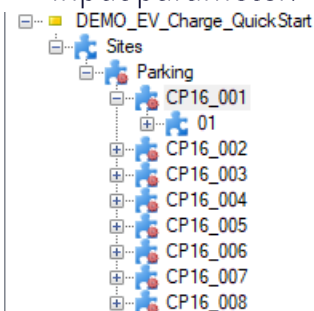
ErrorCode

Info

Expressions

StatusNotification.ErrorCode OCPP16#CP16\_001#ErrorCode

- If your charge point ID is different from the instance name, for example: TH54-RGHY-789, then you must use **L\_DEMO\_EV\_Charging/\_pChargePointId\_ini** input parameter:



Properties

(General)

Name

CP16\_001

Description 1 - French

Description 2 - English

Branch

CP16\_001

CP16\_001 (L\_DEMO\_EV\_Charging/\_16\_ChargePoint)

Expressions

Input parameters

L\_DEMO\_EV\_Charging/\_pChargePointConfigurationFileContent

L\_DEMO\_EV\_Charging/\_pChargePointDate TimeKind

Local

L\_DEMO\_EV\_Charging/\_pChargePointDisabled

false

L\_DEMO\_EV\_Charging/\_pChargePointHeartbeatInterval

30

L\_DEMO\_EV\_Charging/\_pChargePointHeartbeatTimeout

10

L\_DEMO\_EV\_Charging/\_pChargePointId\_Ini

TH54-RGHY-789

L\_DEMO\_EV\_Charging/\_pChargePointReceiveBufferSize

65535

\_StatusNotification (L\_DEMO\_EV\_Charging/\_16\_StatusNotification)

Global parameters

Alarm

ErrorCode

Info

Expressions

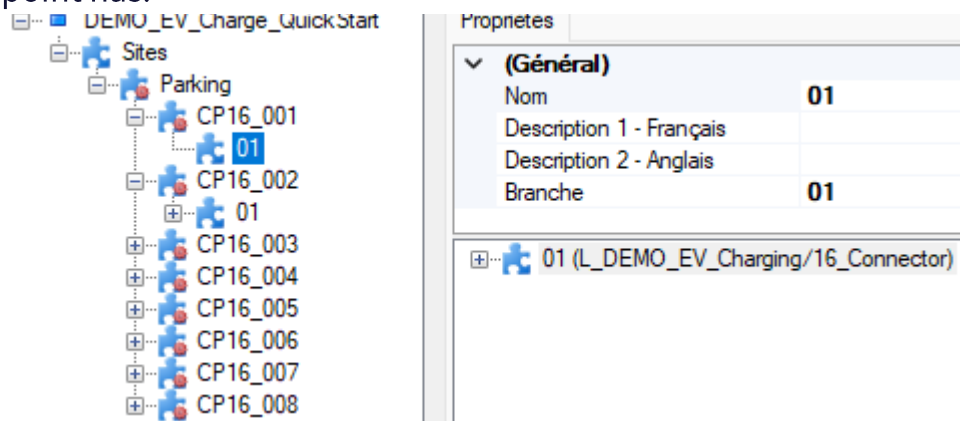
StatusNotification.ErrorCode OCPP16#TH54-RGHY-789#ErrorCode



## 8.2.4 L\_DEMO\_EV\_Charging/16\_Connector

This instance contains the configuration of connector variables, events and expressions.

You must declare as many instances as the number of connectors your charge point has.

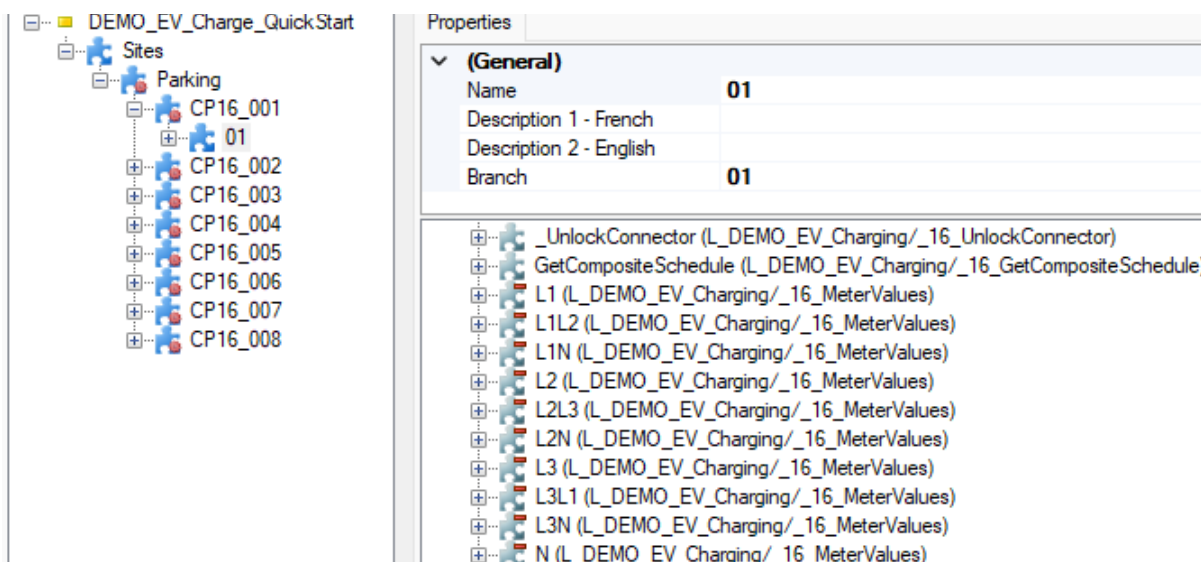


The screenshot shows the configuration interface for the 'DEMO\_EV\_Charge\_QuickStart' project. On the left, a tree view shows the hierarchy: Sites > Parking > CP16\_001 (selected). The 'Properties' panel on the right shows the configuration for the selected connector instance.

Propriétés	
<b>(Général)</b>	
Nom	01
Description 1 - Français	
Description 2 - Anglais	
Branche	01
+ 01 (L_DEMO_EV_Charging/16_Connector)	

### 8.2.4.1 Phases

Some charge point send its "Meter Values" with a phase, in this case you must activate phases:



The screenshot shows the configuration interface for the 'DEMO\_EV\_Charge\_QuickStart' project. On the left, a tree view shows the hierarchy: Sites > Parking > CP16\_001 (selected). The 'Properties' panel on the right shows the configuration for the selected connector instance, including meter values.

Propriétés	
<b>(General)</b>	
Name	01
Description 1 - French	
Description 2 - English	
Branch	01
+ _UnlockConnector (L_DEMO_EV_Charging/_16_UnlockConnector)	
+ GetCompositeSchedule (L_DEMO_EV_Charging/_16_GetCompositeSchedule)	
+ L1 (L_DEMO_EV_Charging/_16_MeterValues)	
+ L1L2 (L_DEMO_EV_Charging/_16_MeterValues)	
+ L1N (L_DEMO_EV_Charging/_16_MeterValues)	
+ L2 (L_DEMO_EV_Charging/_16_MeterValues)	
+ L2L3 (L_DEMO_EV_Charging/_16_MeterValues)	
+ L2N (L_DEMO_EV_Charging/_16_MeterValues)	
+ L3 (L_DEMO_EV_Charging/_16_MeterValues)	
+ L3L1 (L_DEMO_EV_Charging/_16_MeterValues)	
+ L3N (L_DEMO_EV_Charging/_16_MeterValues)	
+ N (L_DEMO_EV_Charging/_16_MeterValues)	

For each phase, you should only retain the measurands sent by your charge point:

DEMO\_EV\_Charge\_QuickStart

Sites

Parking

CP16\_001

01

CP16\_002

CP16\_003

CP16\_004

CP16\_005

CP16\_006

CP16\_007

CP16\_008

Properties

(General)

Name

01

Description 1 - French

Description 2 - English

Branch

01

L1 (L\_DEMO\_EV\_Charging/\_16\_MeterValues)

Global parameters

Current.Export

Current.Import

Current.Offered

Energy.Active.Export.Interval

Energy.Active.Export.Register

Energy.Active.Import.Interval

Energy.Active.Import.Register

Energy.Reactive.Export.Interval

Energy.Reactive.Export.Register

Energy.Reactive.Import.Interval

Energy.Reactive.Import.Register

Frequency

Power.Active.Export

Power.Active.Import

Power.Factor

Power.Offered

Power.Reactive.Export

Power.Reactive.Import

RPM

SoC

Temperature

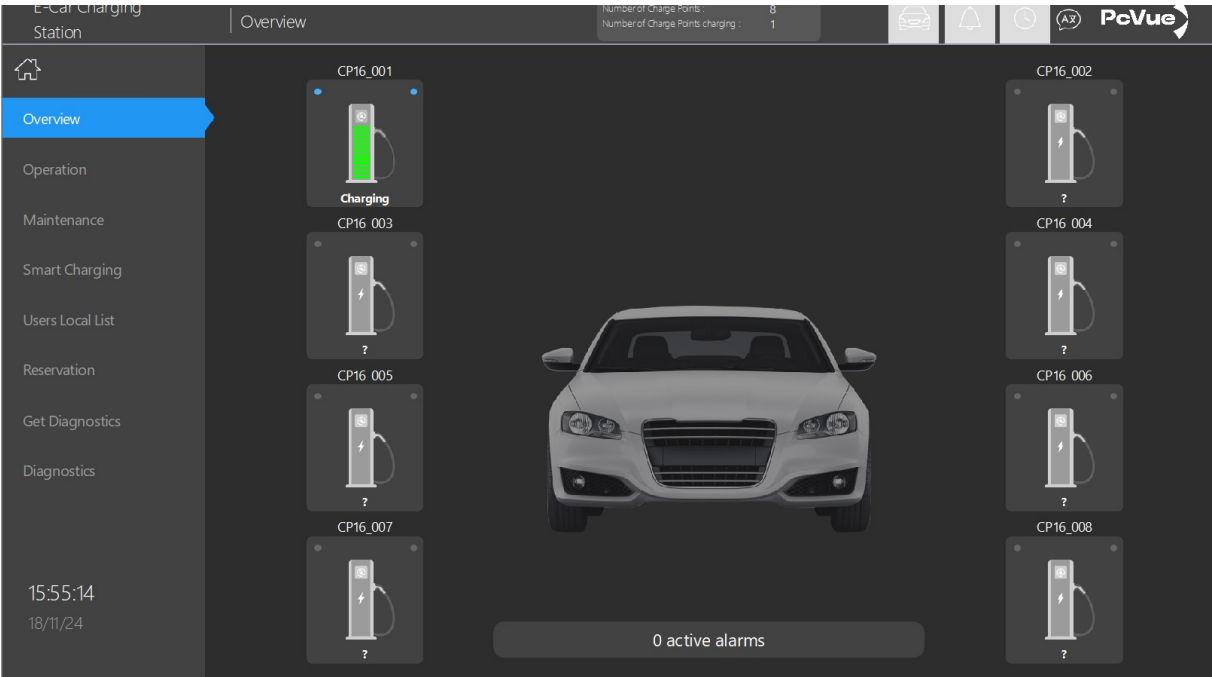
Voltage

8.3 Supervisor test project DEMO\_EV\_Charging

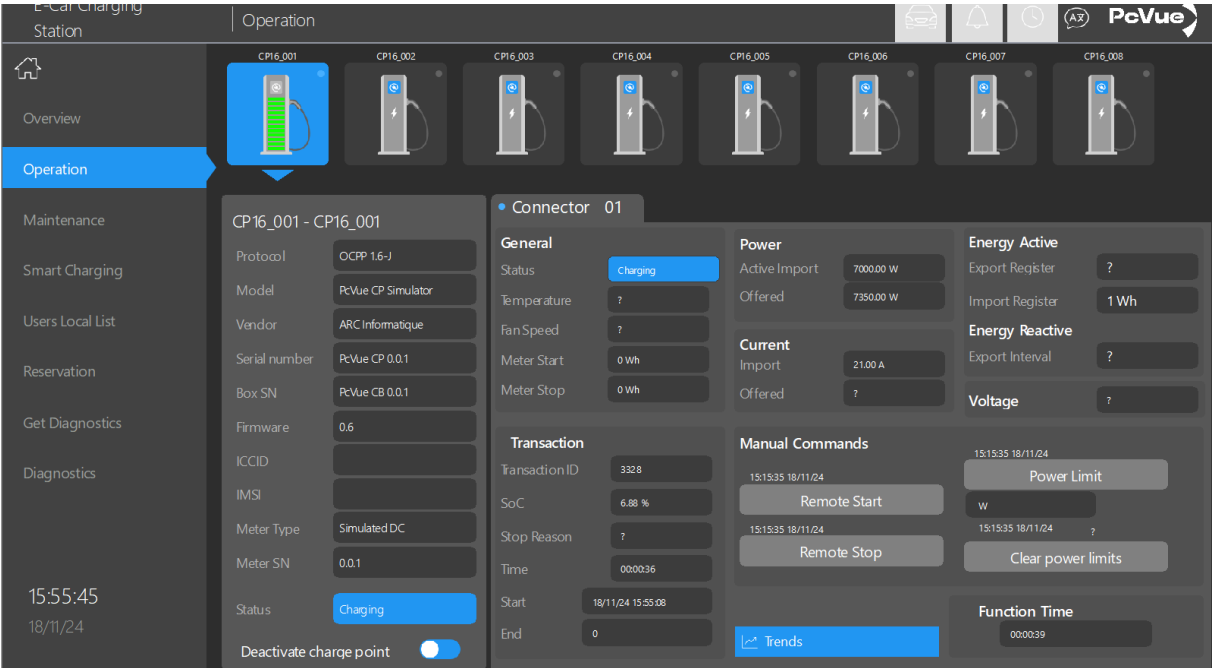
The OCPP driver comes with test projects and a browser-based charge point simulator tool, that you can use to check your basic configuration (HTTP endpoint bindings, etc.).

8.3.1 Main Mimics

8.3.1.1 Overview



8.3.1.2 Operation



8.3.1.3 Maintenance

E-Car Charging Station

Maintenance

Station

CP16\_001

CP16\_002

CP16\_003

CP16\_004

CP16\_005

CP16\_006

CP16\_007

CP16\_008

Overview

Operation

Maintenance

Smart Charging

Users Local List

Reservation

Get Diagnostics

Diagnostics

16:04:15  
18/11/24

CP16\_001 - CP16\_001

ProtocolOCPP 1.6-J

ModelPcVue CP Simulator

VendorARC Informatique

Serial numberPcVue CP 0.0.1

Box SNPcVue CB 0.0.1

Firmware0.6

ICCID

IMSI

Meter TypeSimulated DC

Meter SN0.0.1

StatusCharging

Deactivate charge point

CP16\_001

Connector 01

Authorize

Send Response

Reset

Send

Clear Cache

Send

Get Configuration

Send

Change Configuration

Send

Configuration Panel

Trigger Message

Send

Update Firmware

Send

OCPP Traces

8.3.1.4 Diagnostics

E-Car Charging Station

Diagnostics

Station

Charge Point CP16\_003

StatusNotification

Overview

Operation

Maintenance

Smart Charging

Users Local List

Reservation

Get Diagnostics

Diagnostics

16:42:20  
18/11/24

Date - Time	Event	Title	Status/Error Code	Limit	Info	Vendor Details
08/10/24 - 15:09:17	Change to 1	Charge point status changed for CP16_003 - C1	Faulted		Electric vehicle info	
08/10/24 - 15:09:17	On - Not ack...	Error in charge point CP16_003 (Connector: 1)	NoError		Electric vehicle info	
08/10/24 - 15:09:13	Change to 1	Charge point status changed for CP16_003 - C1	Available			
08/10/24 - 15:09:13	Off - Not ack...	Error in charge point CP16_003 (Connector: 1)				
08/10/24 - 15:08:11	Change to 1	Charge point status changed for CP16_003 - C1	Faulted		Electric vehicle info	
08/10/24 - 15:08:11	On - Not ack...	Error in charge point CP16_003 (Connector: 1)	NoError		Electric vehicle info	
08/10/24 - 15:07:48	Change to 1	Charge point status changed for CP16_003	Charging			
08/10/24 - 15:07:48	Change to 1	Charge point status changed for CP16_003 - C1	Charging			
08/10/24 - 15:07:45	Change to 1	Charge point status changed for CP16_003 - C1	Charging			
08/10/24 - 15:07:42	Change to 1	Charge point status changed for CP16_003 - C1	Preparing			
08/10/24 - 15:07:42	Change to 1	Charge point status changed for CP16_003 - C1	Available			
08/10/24 - 15:07:42	Off - Not ack...	Error in charge point CP16_003 (Connector: 1)				
08/10/24 - 15:06:30	Change to 1	Charge point status changed for CP16_003 - C1	Faulted		Electric vehicle info	
08/10/24 - 15:06:30	On - Not ack...	Error in charge point CP16_003 (Connector: 1)	NoError		Electric vehicle info	
08/10/24 - 15:06:30	Off - Not ack...	Error in charge point CP16_003 (Connector: 1)	NoError		Electric vehicle info	
08/10/24 - 15:06:00	Change to 1	Charge point status changed for CP16_003 - C1	Faulted		Electric vehicle info	
08/10/24 - 15:06:00	On - Not ack...	Error in charge point CP16_003 (Connector: 1)	NoError		Electric vehicle info	
08/10/24 - 15:05:53	Change to 1	Charge point status changed for CP16_003 - C1	Available			
08/10/24 - 15:02:16	Change to 1	Charge point status changed for CP16_003 - C1	Faulted		Electric vehicle info	
08/10/24 - 15:02:16	On - Not ack...	Error in charge point CP16_003 (Connector: 1)	NoError		Electric vehicle info	
08/10/24 - 15:01:08	Change to 1	Charge point status changed for CP16_003 - C1	Available			
08/10/24 - 15:01:08	Off - Not ack...	Error in charge point CP16_003 (Connector: 1)				
08/10/24 - 14:58:22	Change to 1	Charge point status changed for CP16_003 - C1	Faulted		Electric vehicle info	
08/10/24 - 14:58:22	On - Not ack...	Error in charge point CP16_003 (Connector: 1)	NoError		Electric vehicle info	
08/10/24 - 14:58:22	Off - Not ack...	Error in charge point CP16_003 (Connector: 1)	NoError		Electric vehicle info	
08/10/24 - 14:58:20	Change to 1	Charge point status changed for CP16_003 - C1	Faulted		Electric vehicle info	



## 8.4 Charge point simulator

The OCPP charge point simulator consists of two screens: a presentation mode and an expert mode. Toggling between the two screens is done via the buttons on the bottom left corner of the screen.

This simulator was not developed by us, and we disclaim any responsibility for its performance, reliability, or potential issues arising from its use.

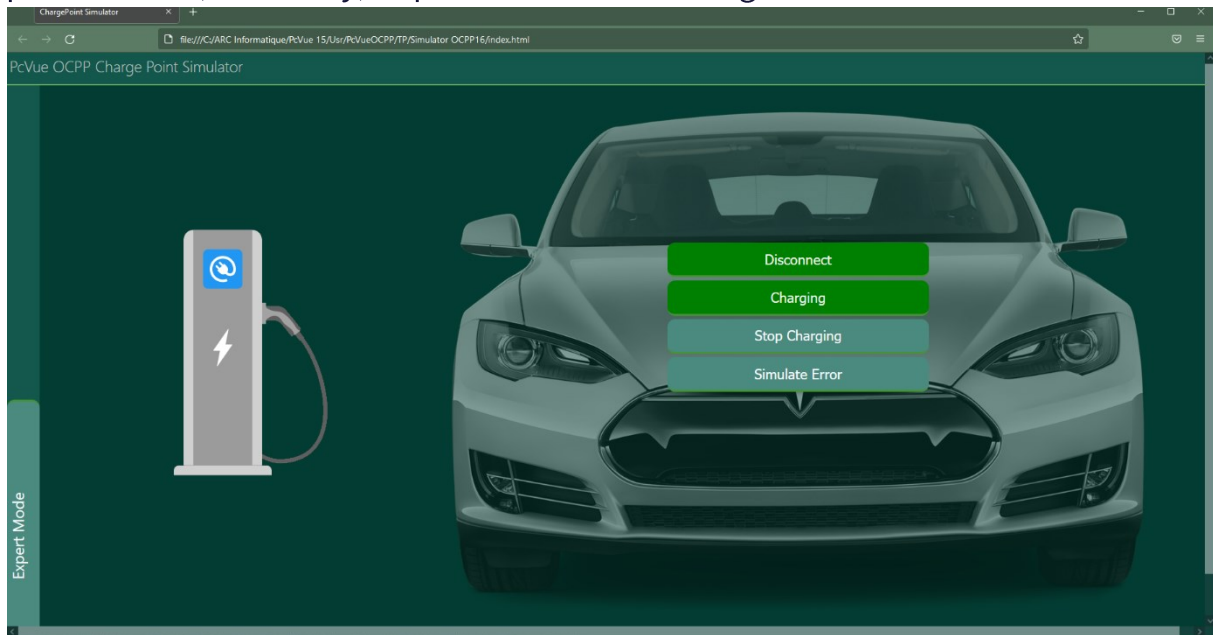


Figure 1: Presentation mode of the OCPP charge point simulator

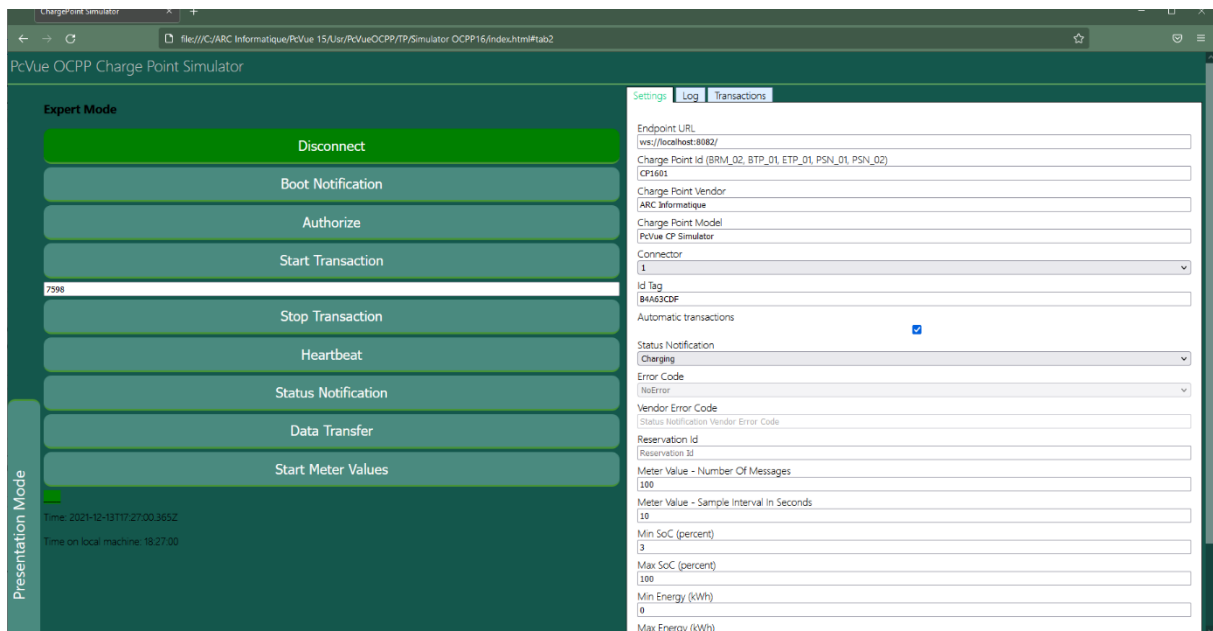


Figure 2: Expert mode of the OCPP charge point simulator

# PCVUE OCPP CONFIGURATION

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Private limited company  
capitalized at 1 250 000 €  
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APE 5829C SIREN 320 695 356

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ISO 9001, ISO 14001 and