



## XML & JSON

### Description

ProtoConvert Gateways have extensive support for XML and JSON protocols. It is possible to serve XML or JSON as per project requirements. It is possible to parse XML and JSON data with extraction and pass it over to other protocol drivers like Modbus/BACnet/SNMP using ProtoConvert Gateway's data arrays. However, such implementations vary from one project to another hence additional development time and cost will be involved depending on the complexity of the 3<sup>rd</sup> party API. The gateway can also be readily program as a JSON/XML server and 3<sup>rd</sup> party client applications can easily exchange data using our existing API mentioned below.

The gateway is readily programmable as a JSON/XML server. Additional development time/cost will be involved if we are required to implement/work with a 3<sup>rd</sup> party JSON API

It is possible to integrate field devices to various cloud-based applications using the XML/JSON driver. Please contact our sales team with details on your cloud API and we will implement it for you.

We support SSL for secure communication.

### The JSON API is as follows:

#### 1) Get Data from data arrays:

Format of the request:

End Point : `https://<IP_ADDRESS_OF_GATEWAY>/getValuesFromArray`

Method : GET

Header : - Authorization: Basic {{ base\_64(USERNAME:PASSWORD) }}

JSON/Payload:

```
{
  "dataArrayName": "DA_AI_01",
```

### Formal Driver Type

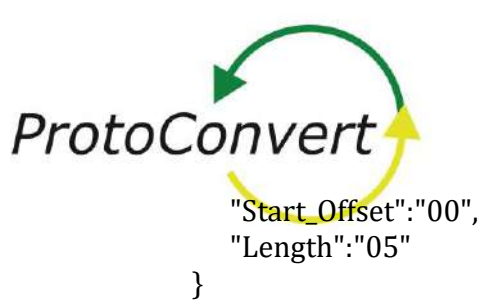
- Ethernet
- Client or Server

### Connection Types

| Mode   | Nodes | Comments                                                                                                                                                      |
|--------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Client | 1     | Supports multiple client connections to different URLs, with associated decoding map descriptors linked to an active GET URL request                          |
| Server | 1     | This mode is always enabled within the JSON driver, and as requested by "http://<ip address>/Json API" where <JSON API> corresponds to the Shubham's address. |

### JSON API (Structure & Syntax)

ProtoConvert JSON REST API supports SSL for secure communication and provides direct access to the gateways data arrays using basic authentication. The user Id and password are set using the web interface of the gateway after logging in as admin.



Valid Response:

```
{  
  'Status': 'Ok',  
  'Length': '05',  
  
  'Values': ['1.200000+Online', '45.550000+Online', '0.000000+Offline', '0.000000+Unused',  
            '0.000000+Unused'],  
  'Start_Offset': '00',  
  'DataArrayName': 'DA_AI_01'  
}
```

Error Response:

```
{  
  'Status': 'Error',  
  'Length': '05',  
  'Values': [],  
  'Start_Offset': '00',  
  'DataArrayName': 'DA_AI_01'  
}
```

2) Sending a command to the ProtoConvert Gateway:

Format of the request:

End Point : [https://<IP\\_ADDRESS\\_OF\\_GATEWAY>/setValueForDataArray](https://<IP_ADDRESS_OF_GATEWAY>/setValueForDataArray)

Method : POST

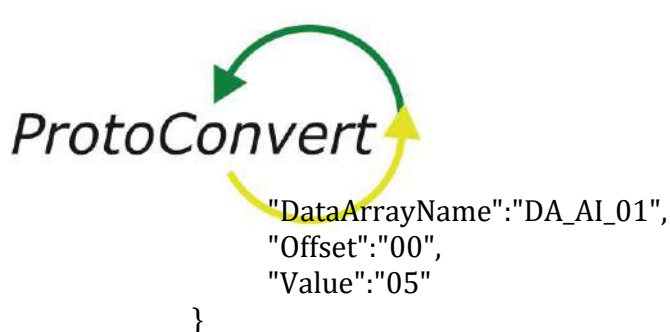
Header : - Authorization: Basic {{ base\_64(USERNAME:PASSWORD) }}

JSON/Payload:

```
{  
  "DataArrayName": "DA_AI_01",  
  "Offset": "00",  
  "Value": "05"  
}
```

Valid Response:

```
{  
  'Status': 'Ok',
```



### The XML API is as follows:

#### 1) Get Data from data arrays:

Format of the request:

End Point : [https://<IP\\_ADDRESS\\_OF\\_GATEWAY>/getValuesFromDataArrayXML](https://<IP_ADDRESS_OF_GATEWAY>/getValuesFromDataArrayXML)

Method : GET

Header : - Authorization: Basic {{ base\_64(USERNAME:PASSWORD) }}

XML:

```
<Data_Request>  
  <DataArrayName>DA_AI_01</DataArrayName>  
  <Start_Offset>00</Start_Offset>  
  <Length>05</Length>  
</Data_Request>
```

Valid Response:

```
<Data_Response>  
  <Status>Ok</Status>  
  <Length>05</Length>  
  <Data>1.200000+Online 45.550000+Online 0.000000+Offline 0.000000+Unused  
  0.000000+Unused</Data>  
  <Start_Offset>00</Start_Offset>  
  <DataArrayName>DA_AI_01</DataArrayName>  
</Data_Response>
```

Error Response:

```
<Data_Response>  
  <Status>Error</Status>  
  <Length>05</Length>  
  <Data></Data>  
  <Start_Offset>00</Start_Offset>  
  <DataArrayName>DA_AI_01</DataArrayName>  
</Data_Response>
```

## 2) Sending a command to the ProtoConvert Gateway:

Format of the request:

End Point : `https://<IP_ADDRESS_OF_GATEWAY>/setValueForDataArray`

Method : POST

Header : - Authorization: Basic {{ base\_64(USERNAME:PASSWORD) }}

XML/Payload:

```
<Command_Request>
  <DataArrayName>DA_AI_01</DataArrayName>
  <Offset>00</Offset>
  <Value>05</Value>
</Command_Request>
```

Valid Response:

```
<Command_Response>
  <Status>Ok</Status>
  <DataArrayName>DA_AI_01</DataArrayName>
  <Offset>00</Offset>
  <Value>05</Value>
</Command_Response>
```