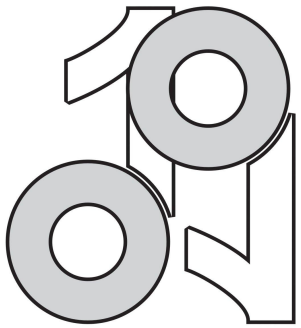

DataGlen Platform Overview

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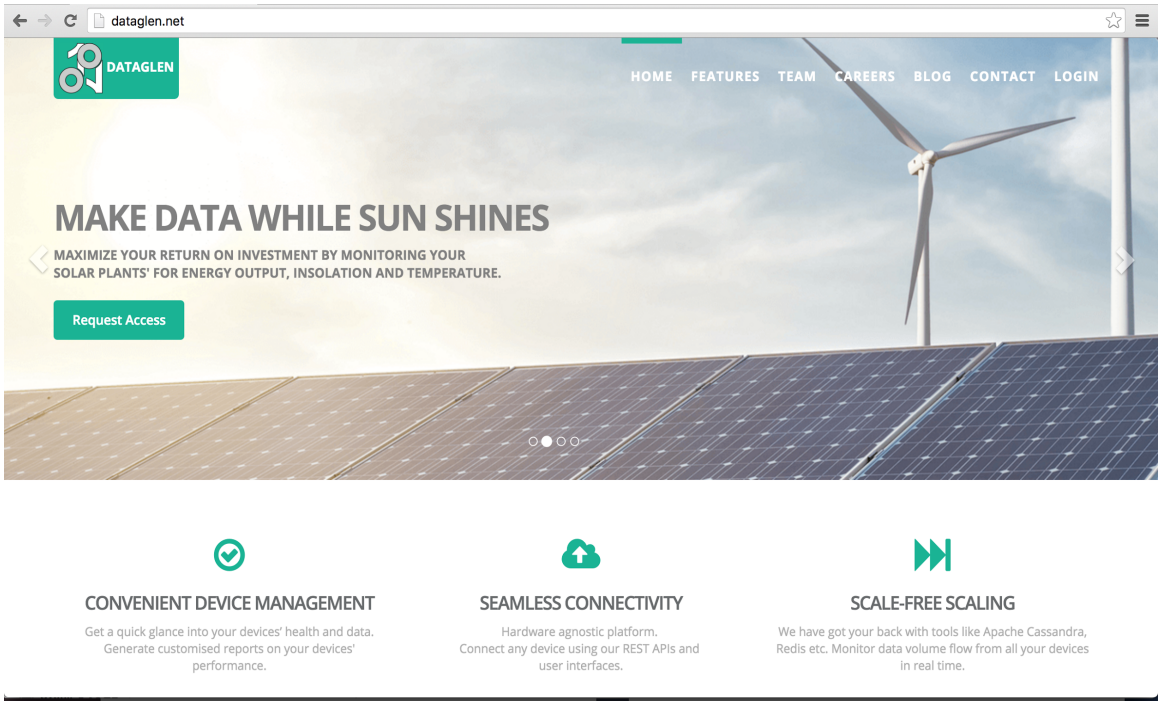
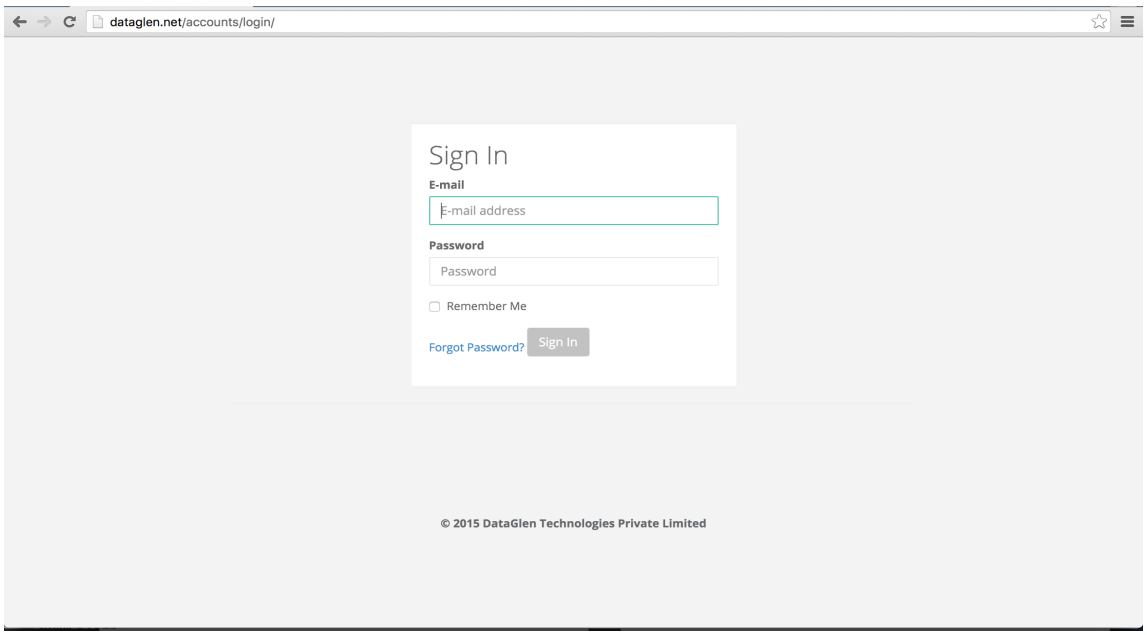
1 DataGlen Platform Uesr Interface

1.1 Login

Login to DataGlen IoELab platform: http://dataglen.net/
You will be directed to the DataGlen homepage which looks like below image:



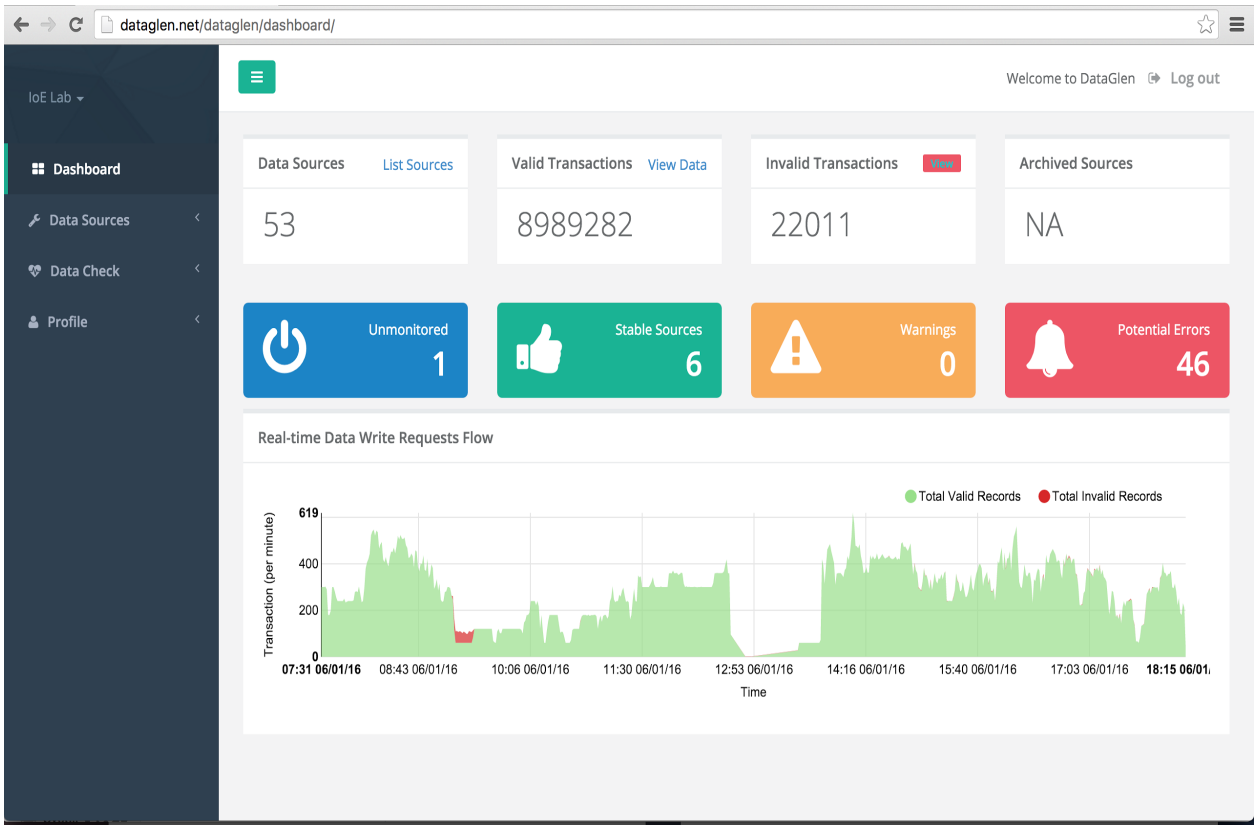
Once you click on the **LOGIN button** on top right corner and you will be redirected to the link: http://dataglen.net/accounts/login/ and the page will look like below image



You will then enter your login credentials and click on **“Sign in”** button.
If the credentials entered are correct, you’ll be directed to Dashboard page.

1.2 Dashboard

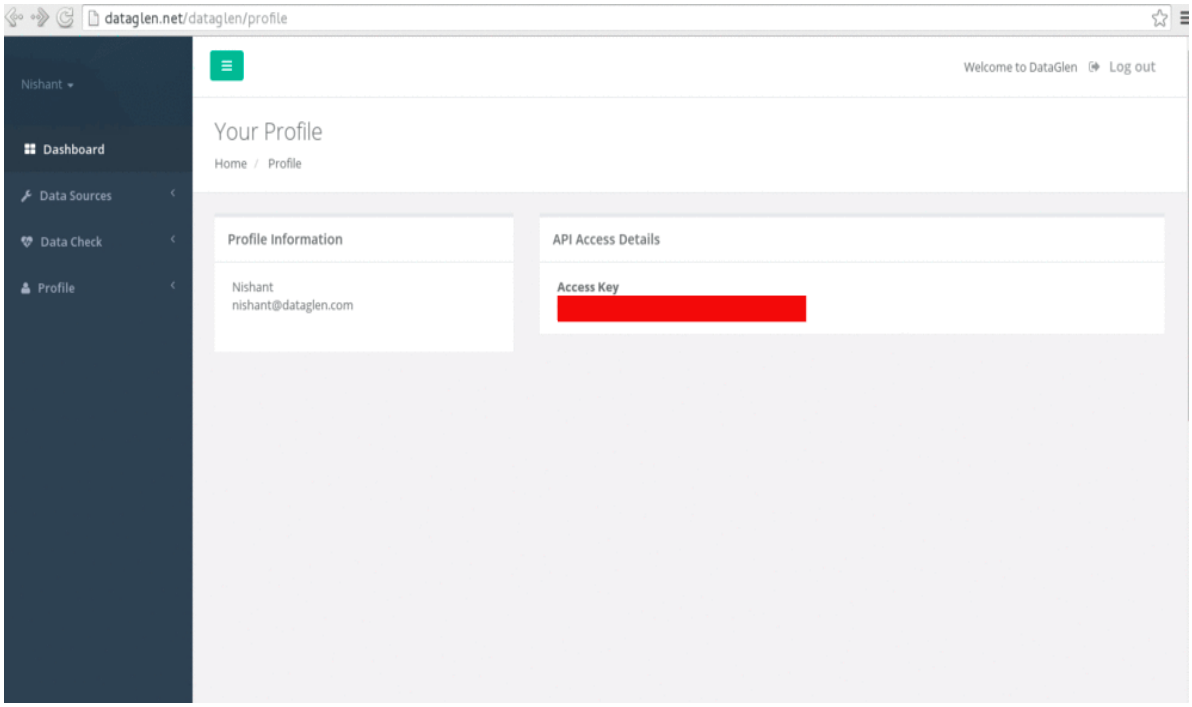
After entering the correct credentials on the login page, you will be directed to the the link http://dataglen.net/dataglen/dashboard/
I.e. the Dashboard, and the page looks like the below image:



This page contains the information about the sources.
It will also display information about transactions done on the sources.
It will show all valid and invalid transactions done on the sources, that is nothing but the valid and invalid data write requests.
It will also show you a graph which shows the current real time data flowing-in.

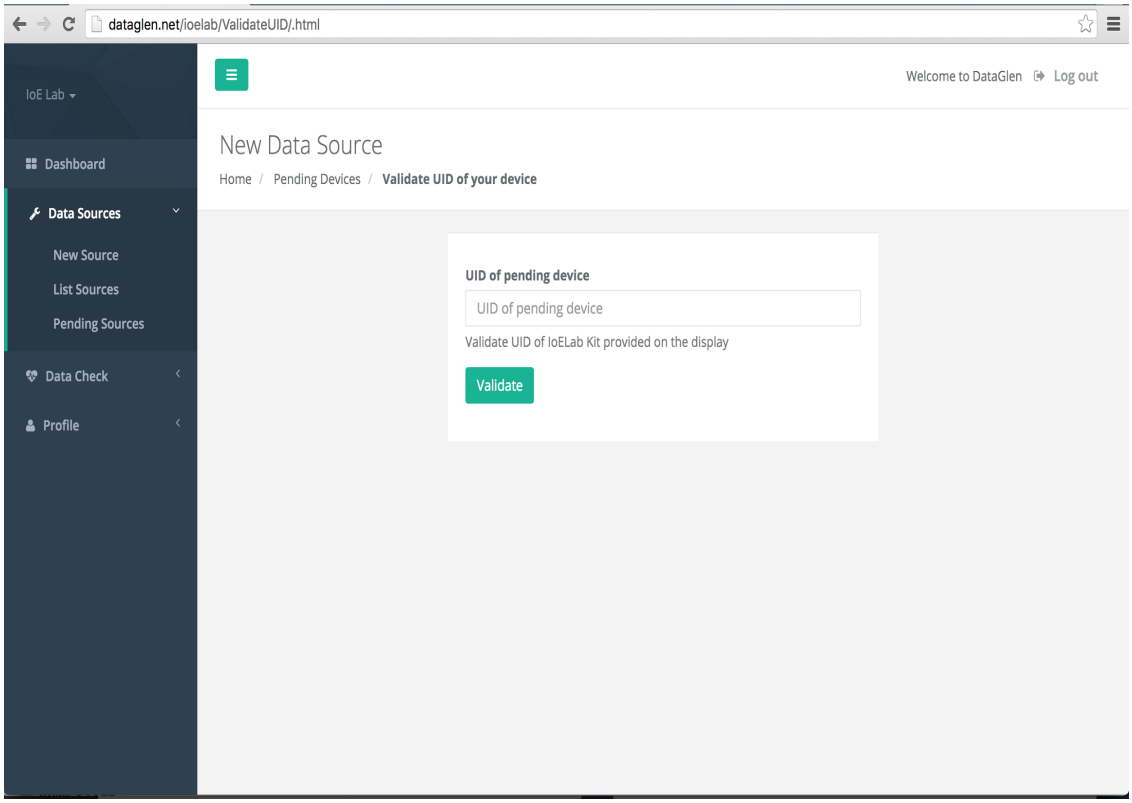
1.3 Profile Page

From Dashboard page, you can go to your profile page by clicking on **“Profile”** from the left side menu. From here, you can get your API key that is required to be provided for integrating with DataGlen APIs .
This page will look like the below image



1.4 Pending Devices

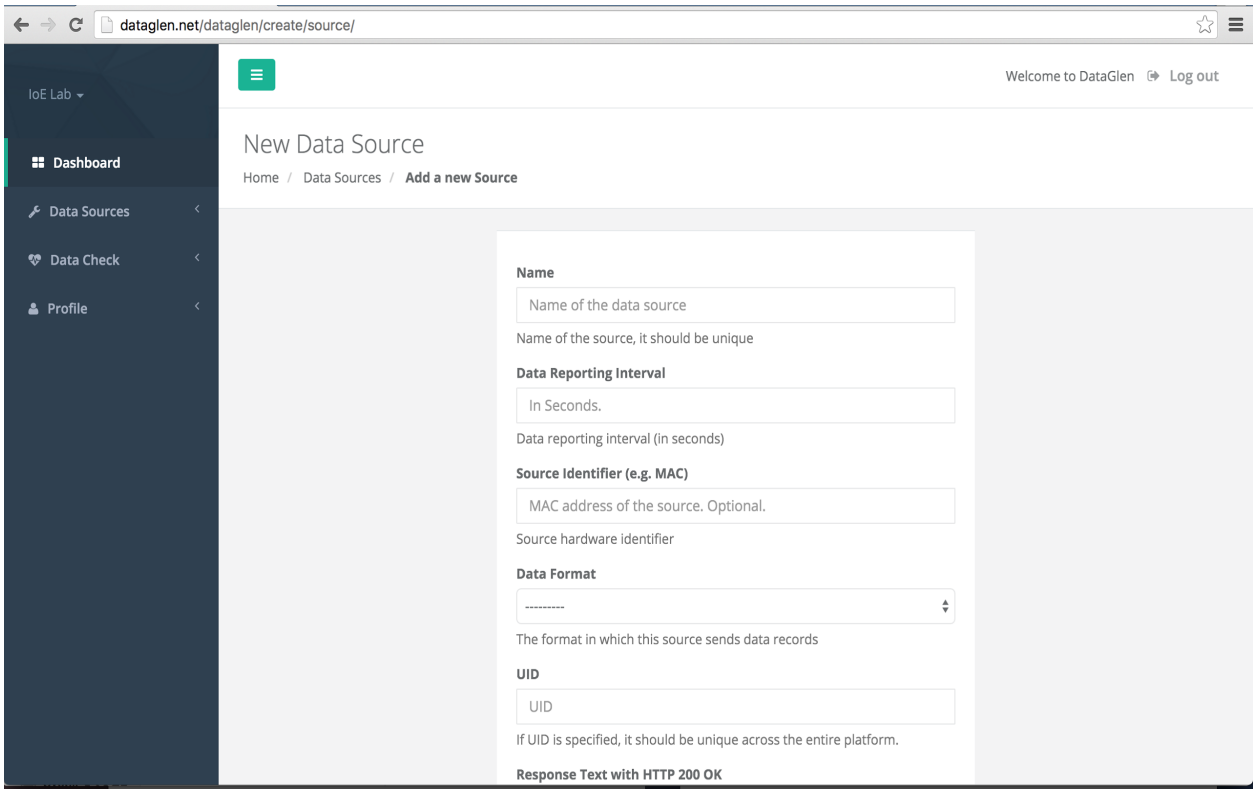
If you would like to validate UID of your device, then you can chose the “Pending Sources” option under “Data Sources” from the left side menu.
You’ll be directed to the link:
http://dataglen.net/ioelab/ValidateUID/.html and the web page looks like the below image:



Enter the UID of your device and click on the Validate button to authenticate the source

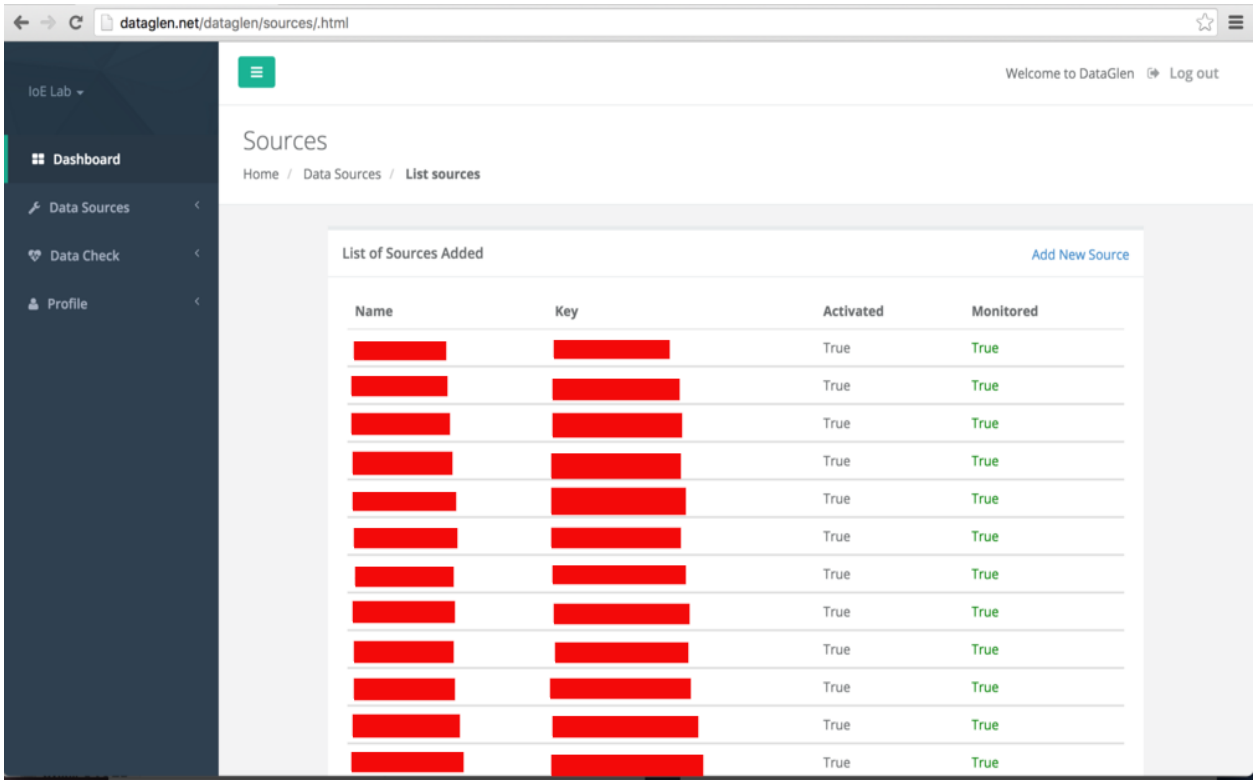
1.5 Create New Source

A New Source can be added by selecting “Add New Source” option under Data Sources from the left side of the menu.
You will be directed to the link: http://dataglen.net/dataglen/create/source/
And the page looks like the below image:



1.6 Sources Page:

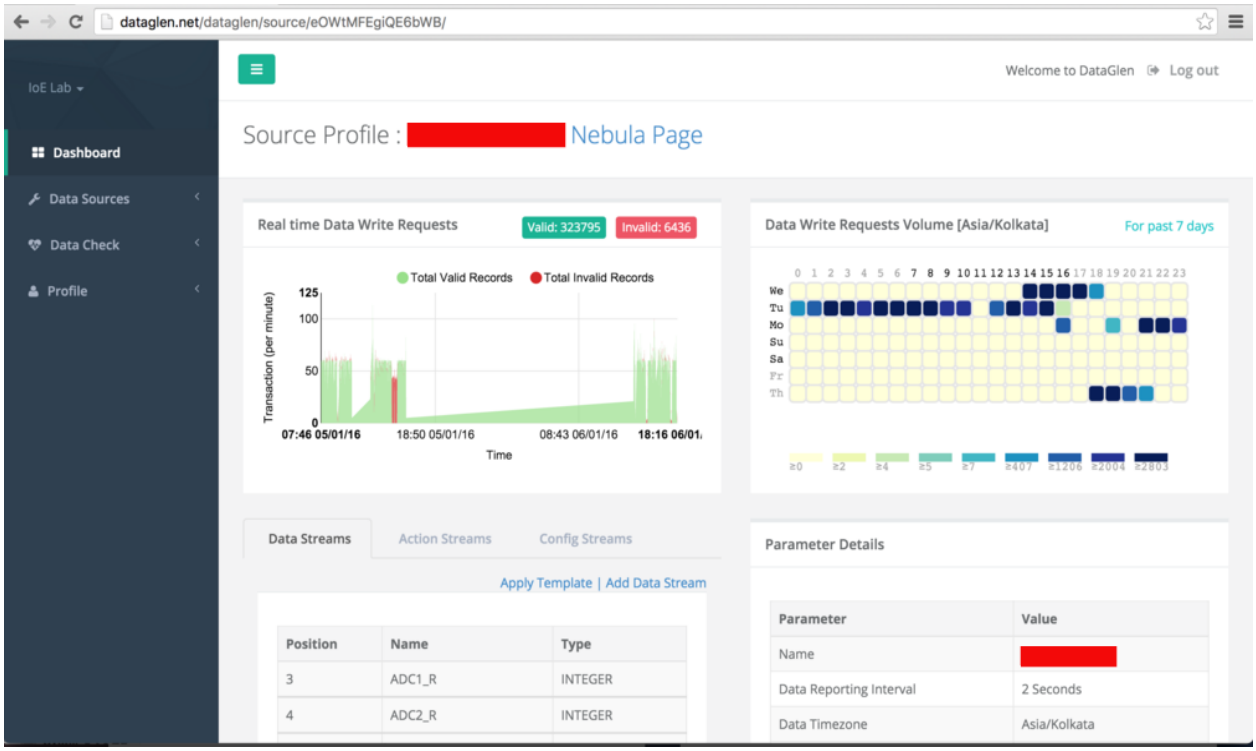
You can view all the sources, by clicking on the “List Sources” option on the Dashboard page, or by selecting “List Sources” option under “Data Sources” from the left side menu.
After selecting the List Sources option, you will be directed to the link: http://dataglen.net/dataglen/sources/; the page looks like below image:



New Source can also be added by clicking on Add New Source option on sources page.

1.7 Source Details

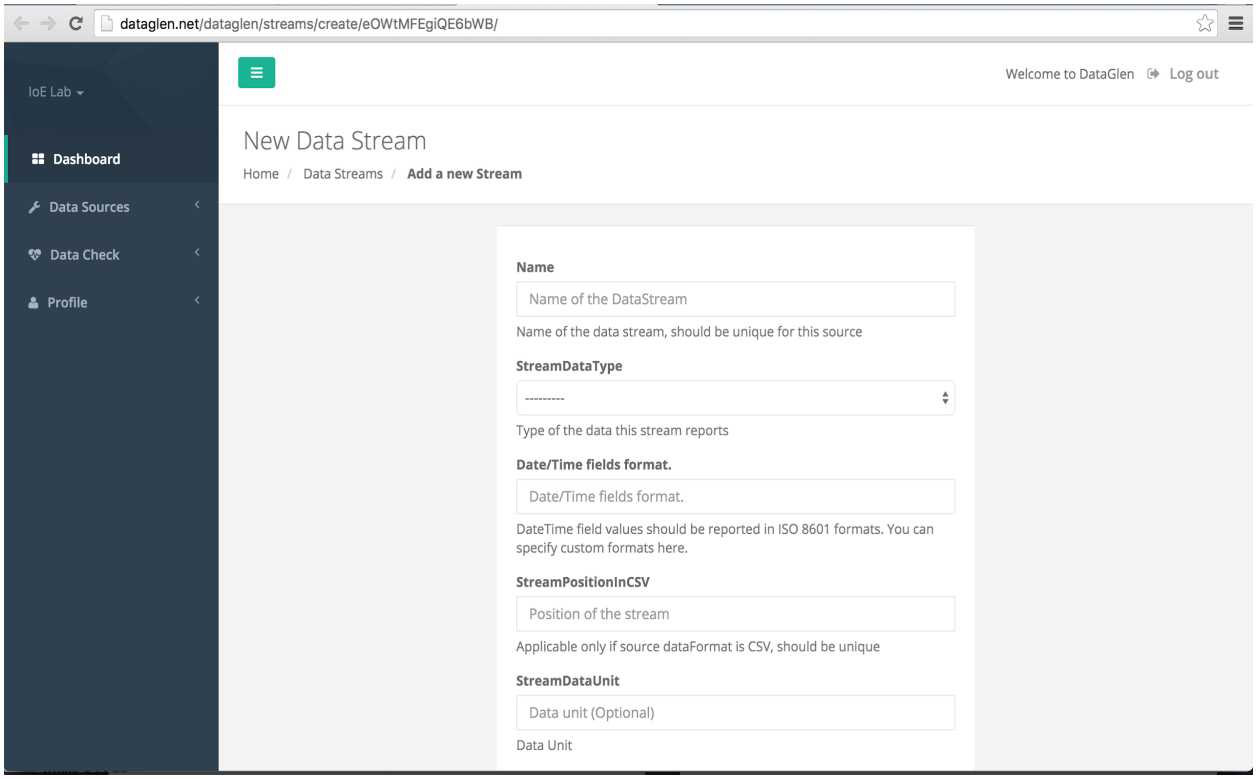
You can view the detailed profile of all the sources, by then clicking either on the source name or the key from the sources page, you will be directed
The url:http://dataglen.net/dataglen/source/eOWtMFEgiQE6bWB/
Where “eOWtMFEgiQE6bWB” is the source key.
The web page looks like the below image:



The source profile page contains all the details about the source.
It shows all the parameter details of the source and all the data, action and configuration streams of the source.
The graphs on this page show the real data flowing-in and also the data write requests volume for the past 7 day.

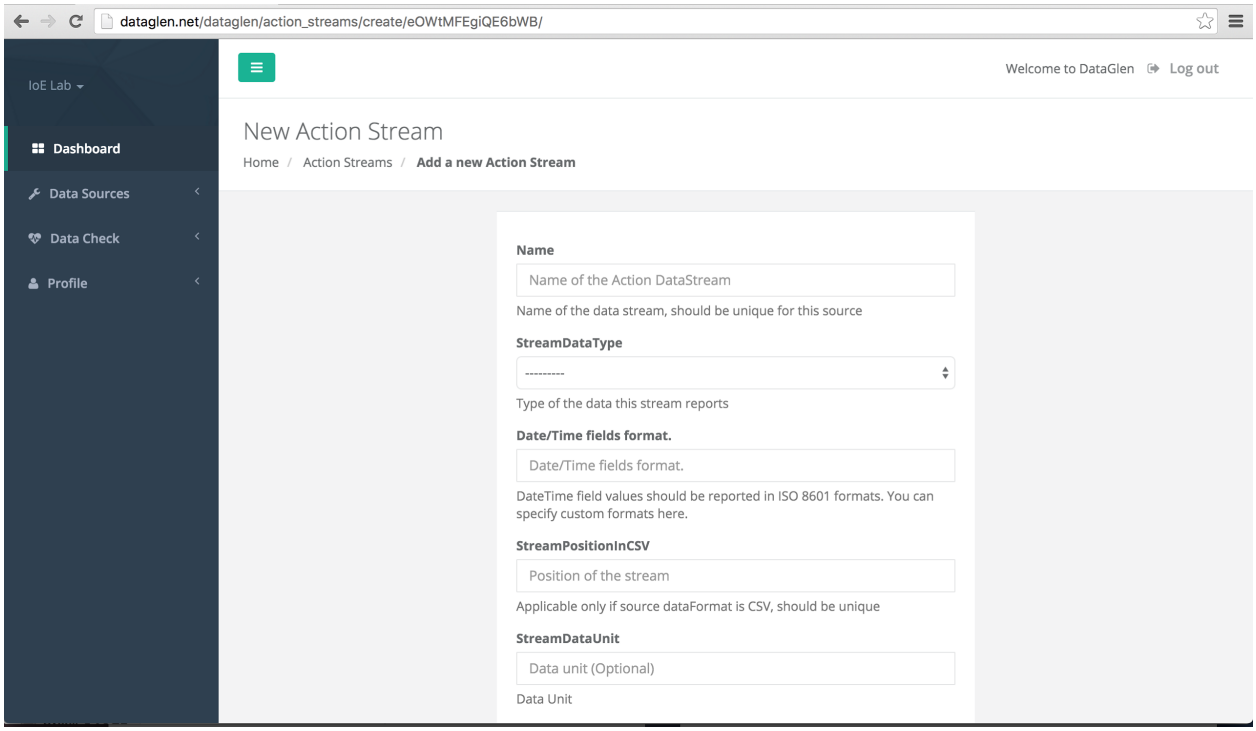
1.8 Defining New Data Stream

New data streams can be added for the source by clicking the “Add Data Stream” link under Data Streams tab. You will be directed to the link: http://dataglen.net/dataglen/streams/create/eOWtMFEgiQE6bWB/ and the page looks like the below image:



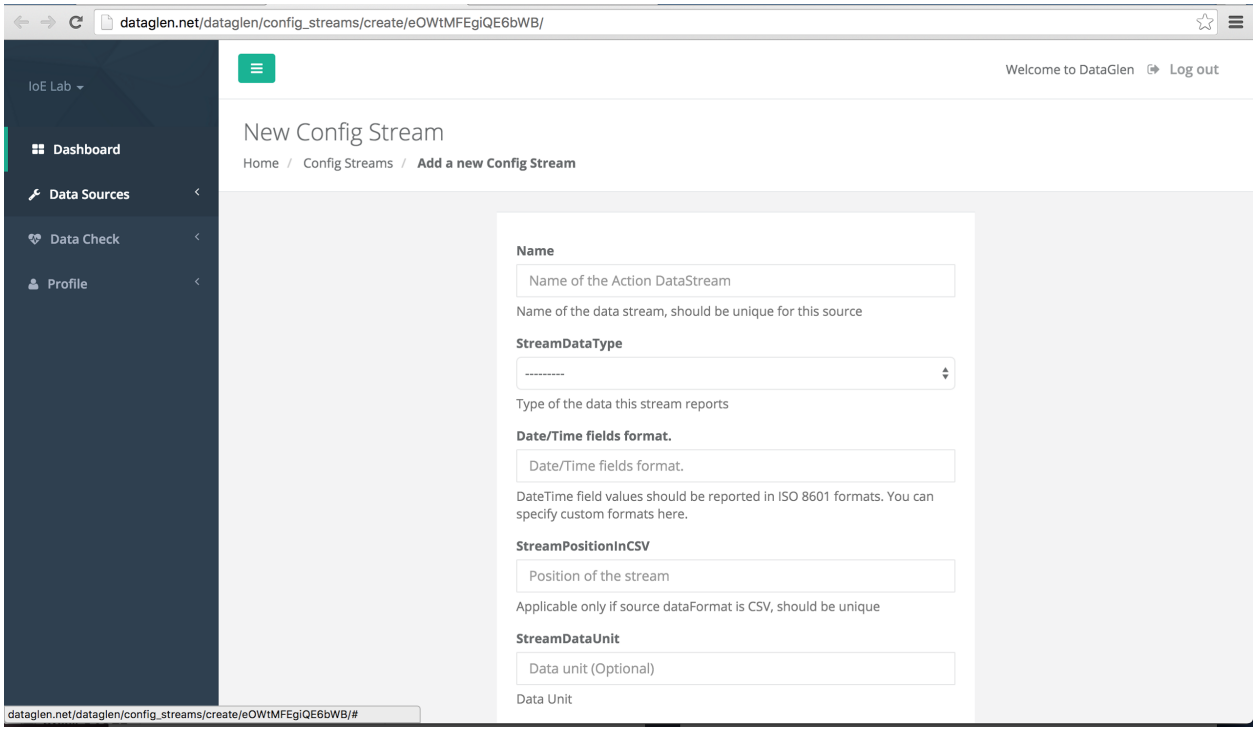
1.9 Define New Action Stream

Similar to add streams, the action streams can be added by clicking, “Add Action Stream” link under “Action Streams” tab from the source profile page. After doing so,you will be directed to the link:
http://dataglen.net/dataglen/action_streams/create/eOWtMFEgiQE6bWB/
And the page looks like the below image:



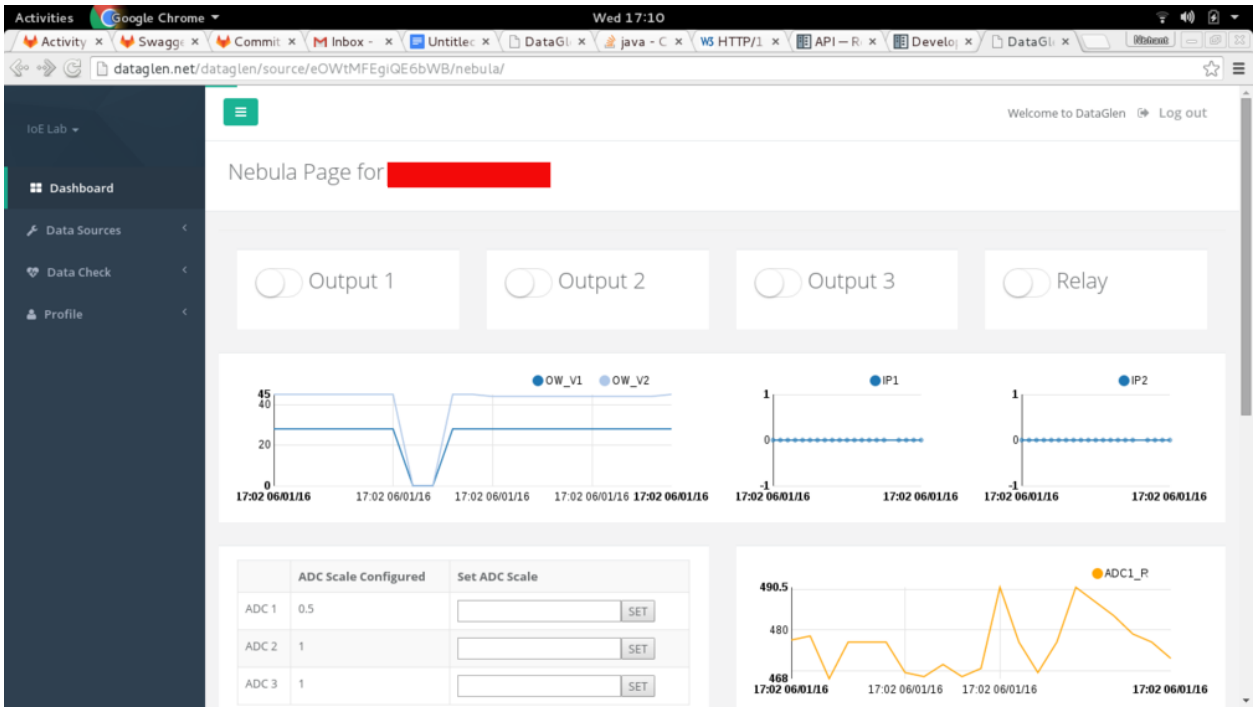
1.10 Define New Configuration Stream

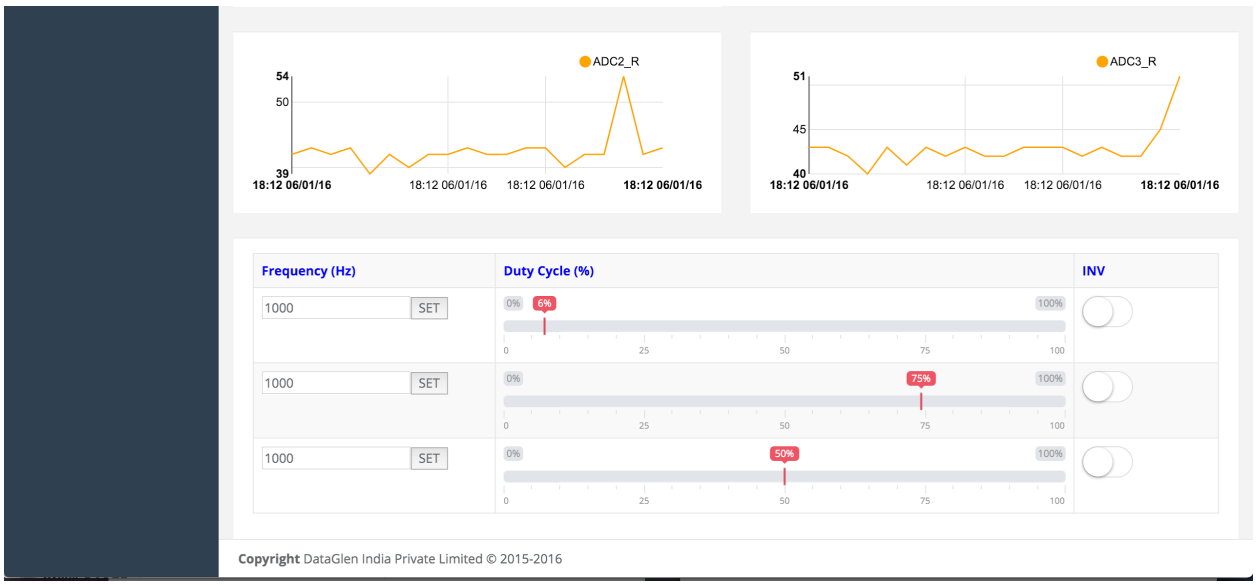
Similarly, action streams, “Add Config Stream” link can be clicked under “Config Streams” tab from the source profile page. After doing so,
You will be directed to the link:
http://dataglen.net/dataglen/config_streams/create/eOWtMFEgiQE6bWB/
and the page looks like the below image:



1.11 Nebula Dashboard

You can visit the Nebula dashboard by clicking the “Nebula Page” link on the source details page. After doing so, you will be directed to the link: http://dataglen.net/dataglen/source/eOWtMFEgiQE6bWB/nebula/
And the page looks like the below images:



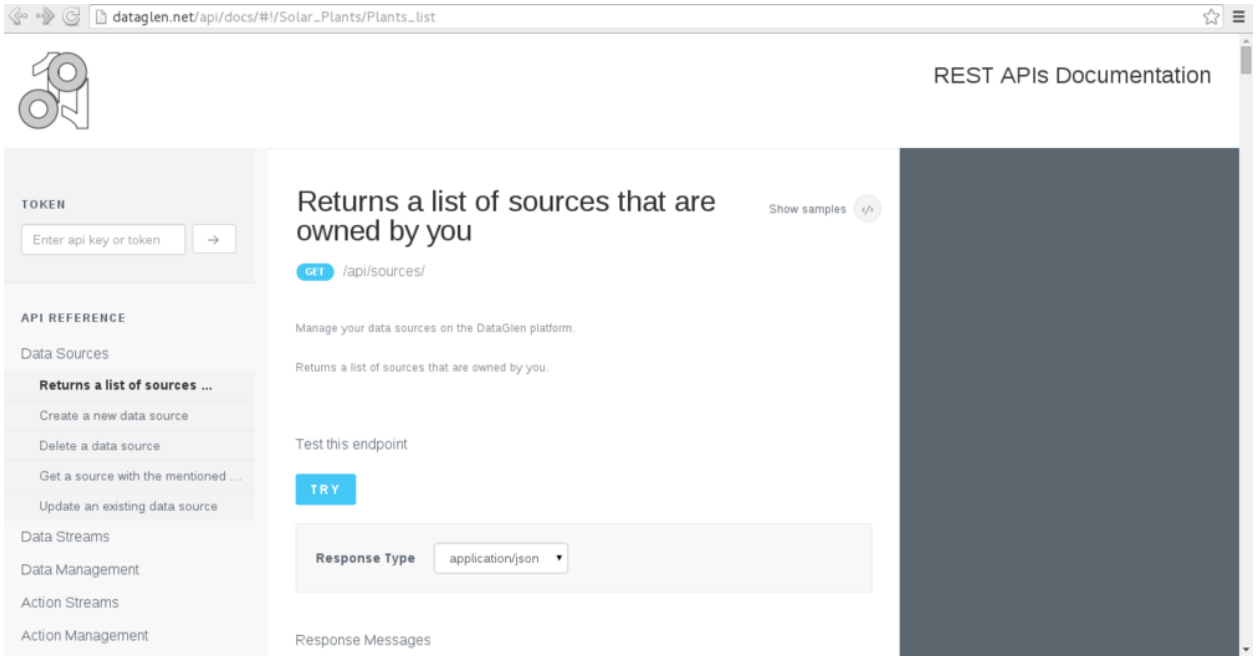


This page contains graphs of various parameters of the nebula board.
Only from this page, actuation control can be gained over the device.

2 DataGlen REST APIs:

The DataGlen Platform REST API's can be accessed from the link:
http://dataglen.net/api/docs/
This page contains all the API's related to sources, streams, actions and configs under different sections.

This page looks like the below image:



You need to enter your API key and after that all the API's can be accessed. Request and Response body for all the API's can be found by clicking show samples icon for each API.

2.1 API's related to sources:

2.1.1 Get a list of sources owned by you:

API: /api/sources (GET)
You can view all the sources owned by you using above API

Parameters: None

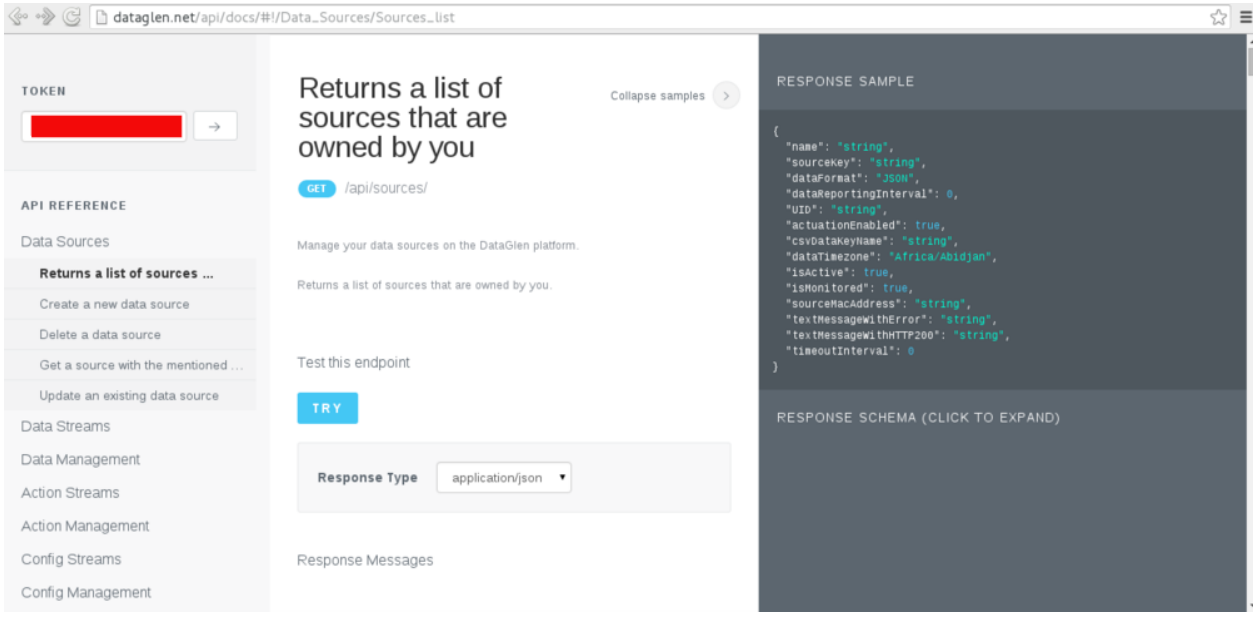
Response:

name (string): Name of the source, it should be unique,
sourceKey (string): Unique sensor key, a read only field,
UID (string): If UID is specified, it should be unique across the entire platform.,
dataFormat (choice) = ['JSON' or 'CSV']: The format in which this source sends data records,
dataReportingInterval (integer): Data reporting interval (in seconds),
sourceMacAddress (string): Source hardware identifier,
textMessageWithHTTP200 (string): Text message to be accompanied with HTTP 200 OK,
textMessageWithError (string): Text message to be accompanied with an error,
isActive (boolean): Data will be accepted only if this parameter is True,
isMonitored (boolean): This source will be monitored only if this parameter is True,
actuationEnabled (boolean): If this source has actuation features enabled. Keep it unchecked if unsure.,
csvDataKeyName (string): Key name that holds comma separated data (applicable only if source dataFormat is CSV),
timeoutInterval (integer): If there is no data for these many seconds, a notification will be raised,
dataTimezone (choice) = Choice of different time zones

Error Status Codes

HTTP Status Code	Reason
200	Success
401	Not authenticated

This API looks like the below image on the API docs page:



This API can be accessed directly from the code in any language.
Below is the code sample to get the sources owned by you in python:

```
API = ‘your API key’
# Get list of data sources
    def get_data_source(self):
            self.server_address = 'http://www.dataglen.net'
            self.sources_url = '/api/sources/'
            self.api_key = API
            self.token = 'Token ' + self.api_key
            self.url = self.server_address + self.sources_url
            self.auth_header = {'Authorization ': self.token}
            response = requests.get(self.url, headers = self.auth_header)
            print(response.status_code)
```

2.1.2 Create a new Data Source

API: /api/sources (POST)

Description: A new data source can be created using above API:

Parameters:

Parameter Name	Parameter Type	Data Type
body	body	body

Response:

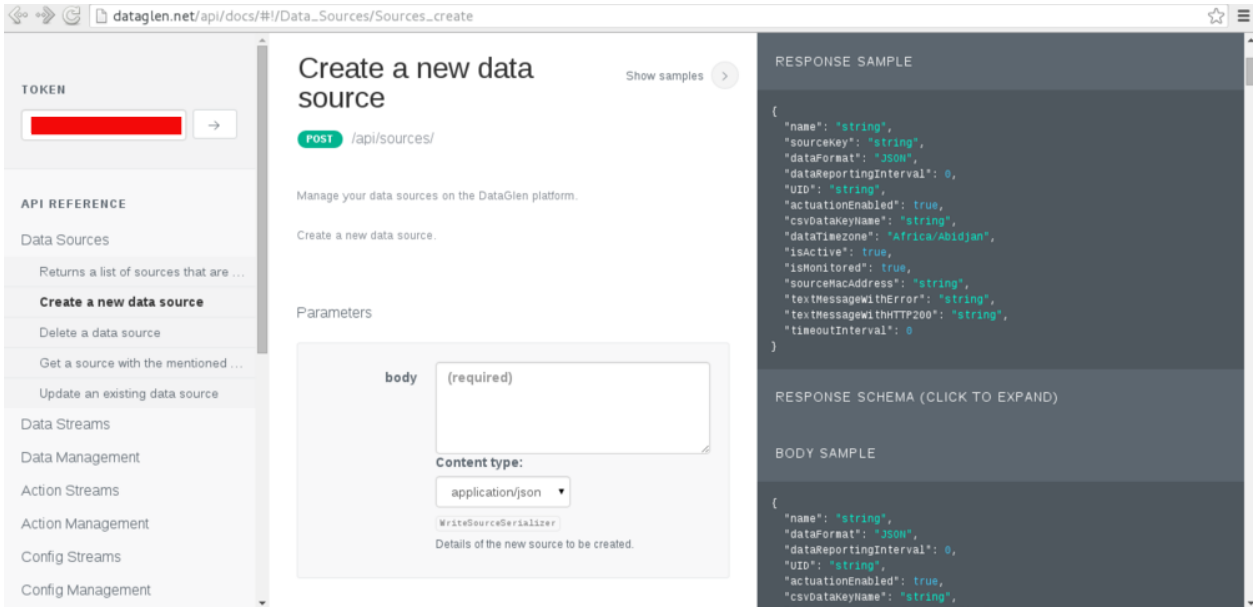
name (string): Name of the source, it should be unique,
sourceKey (string): Unique sensor key, a read only field,
UID (string): If UID is specified, it should be unique across the entire platform.,
dataFormat (choice) = ['JSON' or 'CSV']: The format in which this source sends data records,
dataReportingInterval (integer): Data reporting interval (in seconds),
sourceMacAddress (string): Source hardware identifier,
textMessageWithHTTP200 (string): Text message to be accompanied with HTTP 200 OK,
textMessageWithError (string): Text message to be accompanied with an error,
isActive (boolean): Data will be accepted only if this parameter is True,
isMonitored (boolean): This source will be monitored only if this parameter is True,
actuationEnabled (boolean): If this source has actuation features enabled. Keep it unchecked if unsure.,
csvDataKeyName (string): Key name that holds comma separated data (applicable only if source dataFormat is CSV),
timeoutInterval (integer): If there is no data for these many seconds, a notification will be raised,
dataTimezone (choice) = Choice of different time zones

Error Status Codes

HTTP Status Code	Reason

`201`	Success. Accompanied with details of the new source.
`400`	If any of the essential parameters are missing (BAD_REQUEST).
`409`	If a source with the mentioned name already exists (DUPLICATE_SOURCE).
`401`	Not authenticated

This API looks like the below image on the API docs page:



This API can be accessed directly from the code in any language.
Below is the code sample to get the sources owned by you in python:

```
API = ‘your API key’
# Adding a data source
    def create_data_source(self):
        self.server_address = 'http://www.dataglen.net'
        self.sources_url = '/api/sources/'
```

```
        self.api_key = API
        self.token = 'Token ' + self.api_key
        self.url = self.server_address + self.sources_url
        self.post_body = {
                            "name": "test_source_csv",
                            "dataFormat": "CSV",
                            "dataReportingInterval": 10,
                            "isActive": False,
                            "isMonitored": True
                         }
        length = sys.getsizeof(self.post_body)
        self.auth_header = {'Authorization ': self.token, 'content-length': length, 'content-type':
'application/json'}
        response = requests.post(self.url , data = json.dumps(self.post_body) , headers =
self.auth_header)
        print(response.status_code)
```

2.1.3 Delete a data source:

API: /api/sources/{key} (DELETE)

Description: A data source can be deleted using above API.

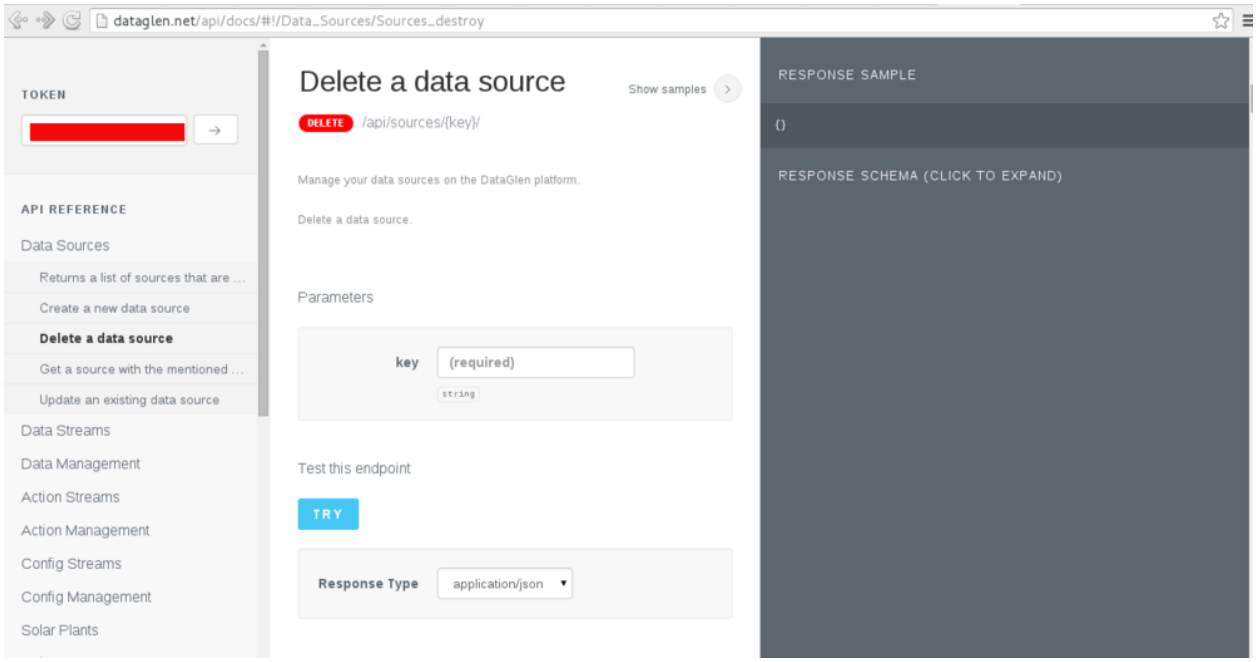
Parameters:

Parameter Name	Parameter Type	Data Type
key	path	string

Error Status Codes

HTTP Status Code	Reason
204	Success. The source has been deleted.
400	If the specified source key does not exist (INVALID_SOURCE_KEY).
401	Not authenticated

This API looks like the below image on the API docs page:



2.1.4 Get a source source with mentioned key:

API: /api/sources/{key} (GET)

Description: A data source can be deleted using above API.

Parameters:

Parameter Name	Parameter Type	Data Type
key	path	string

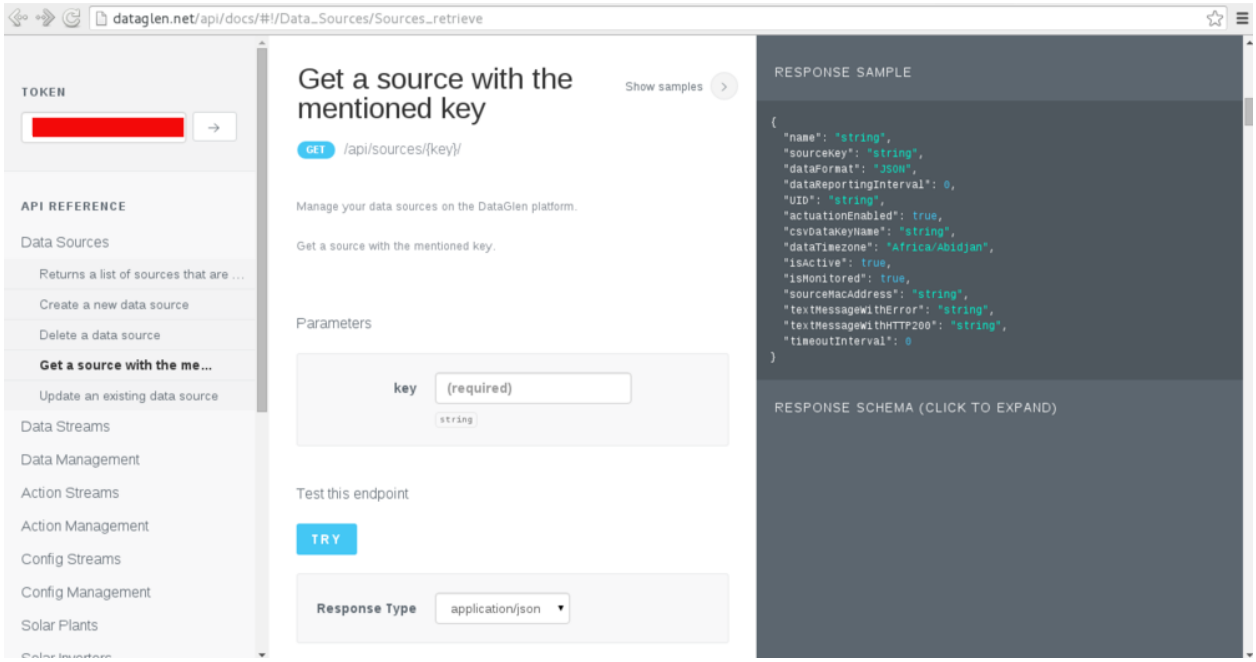
Response:

name (string): Name of the source, it should be unique,
sourceKey (string): Unique sensor key, a read only field,
UID (string): If UID is specified, it should be unique across the entire platform.,
dataFormat (choice) = ['JSON' or 'CSV']: The format in which this source sends data records,
dataReportingInterval (integer): Data reporting interval (in seconds),
sourceMacAddress (string): Source hardware identifier,
textMessageWithHTTP200 (string): Text message to be accompanied with HTTP 200 OK,
textMessageWithError (string): Text message to be accompanied with an error,
isActive (boolean): Data will be accepted only if this parameter is True,
isMonitored (boolean): This source will be monitored only if this parameter is True,
actuationEnabled (boolean): If this source has actuation features enabled. Keep it unchecked if unsure.,
csvDataKeyName (string): Key name that holds comma separated data (applicable only if source dataFormat is CSV),
timeoutInterval (integer): If there is no data for these many seconds, a notification will be raised,
dataTimezone (choice) = Choice of different time zones

Error Status Codes

HTTP Status Code	Reason
200	Success
400	If the specified source key does not exist (INVALID_SOURCE_KEY).
401	Not authenticated

This API looks like the below image on the API docs page:



2.1.5 Update an existing data source:

API: /api/sources/{key} (PATCH)

Description: Details of any source can be updated using above API.

Parameters:

Parameter Name	Parameter Type	Data Type
key	path	string
body	body	body

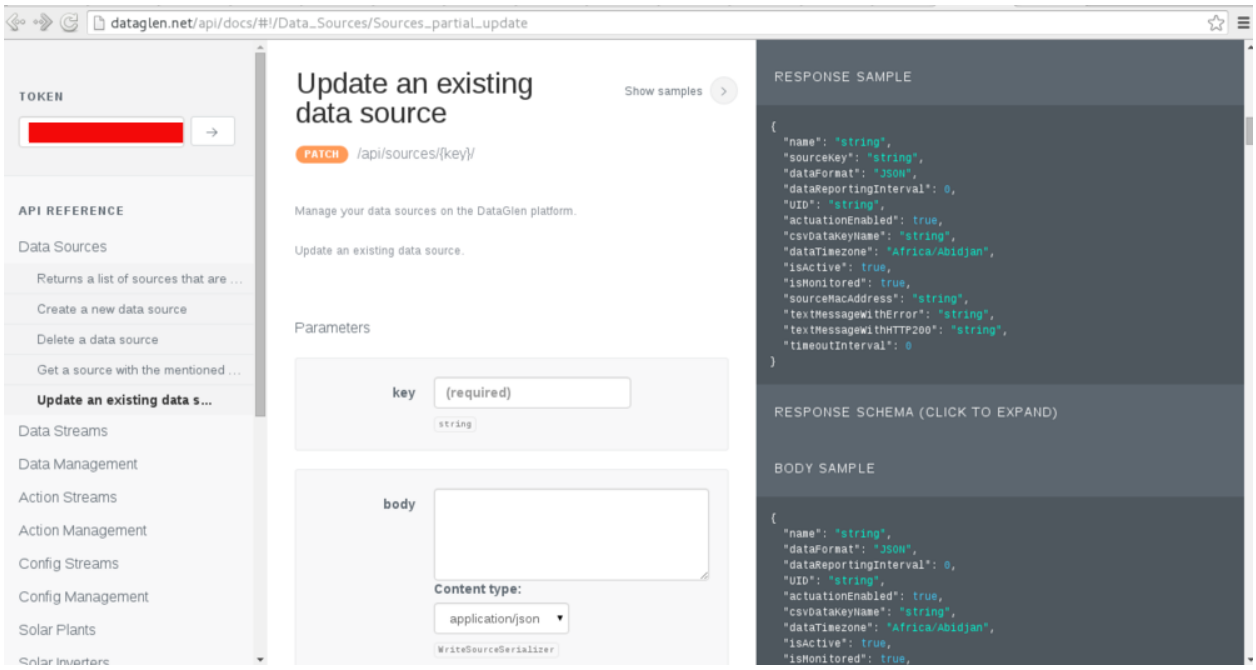
Response:

name (string): Name of the source, it should be unique,
sourceKey (string): Unique sensor key, a read only field,
UID (string): If UID is specified, it should be unique across the entire platform.,
dataFormat (choice) = ['JSON' or 'CSV']: The format in which this source sends data records,
dataReportingInterval (integer): Data reporting interval (in seconds),
sourceMacAddress (string): Source hardware identifier,
textMessageWithHTTP200 (string): Text message to be accompanied with HTTP 200 OK,
textMessageWithError (string): Text message to be accompanied with an error,
isActive (boolean): Data will be accepted only if this parameter is True,
isMonitored (boolean): This source will be monitored only if this parameter is True,
actuationEnabled (boolean): If this source has actuation features enabled. Keep it unchecked if unsure.,
csvDataKeyName (string): Key name that holds comma separated data (applicable only if source dataFormat is CSV),
timeoutInterval (integer): If there is no data for these many seconds, a notification will be raised,
dataTimezone (choice) = Choice of different time zones

Error Status Codes

HTTP Status Code	Reason
201	Success. Accompanied with updated details of the source.
400	If any of the essential parameters are missing or invalid (BAD_REQUEST) or If the specified source key does not exist (INVALID_SOURCE_KEY).
409	If a source with the mentioned name already exists (DUPLICATE_SOURCE).
401	Not authenticated

This API looks like the below image on the API docs page:



This API can be accessed directly from the code in any language.
Below is the code sample to get the sources owned by you in python:

```
API=’your API key’
SOURCE_KEY=’source key of data source’
# Activate a data source/ update data source
    def activate_data_source(self):
        self.server_address = 'http://www.dataglen.net'
        self.sources_url = '/api/sources/'
        self.api_key = API
        self.token = 'Token ' + self.api_key
        self.url = self.server_address + self.sources_url + SOURCE_KEY + '/'
        self.post_body = {
                        "name": "test_source_csv",
                        "dataFormat": "CSV",
                        "dataReportingInterval": 10,
```

```
                    "isActive": True,
                    "isMonitored": True
                }
    length = sys.getsizeof(self.post_body)
    self.auth_header = {'Authorization ': self.token, 'content-length': length, 'content-
type': 'application/json'}
    response = requests.patch(self.url , data = json.dumps(self.post_body) , headers
= self.auth_header)
    print(response.status_code)
```

2.2 API's related to Data Streams:

2.2.1 Get a list data streams for a data source

API: /api/sources/{source_key}/streams (GET)

Description: You can view all the sources owned by you using above API

Parameters:

Parameter Name	Parameter Type	Data Type
source_key	path	string

Response:

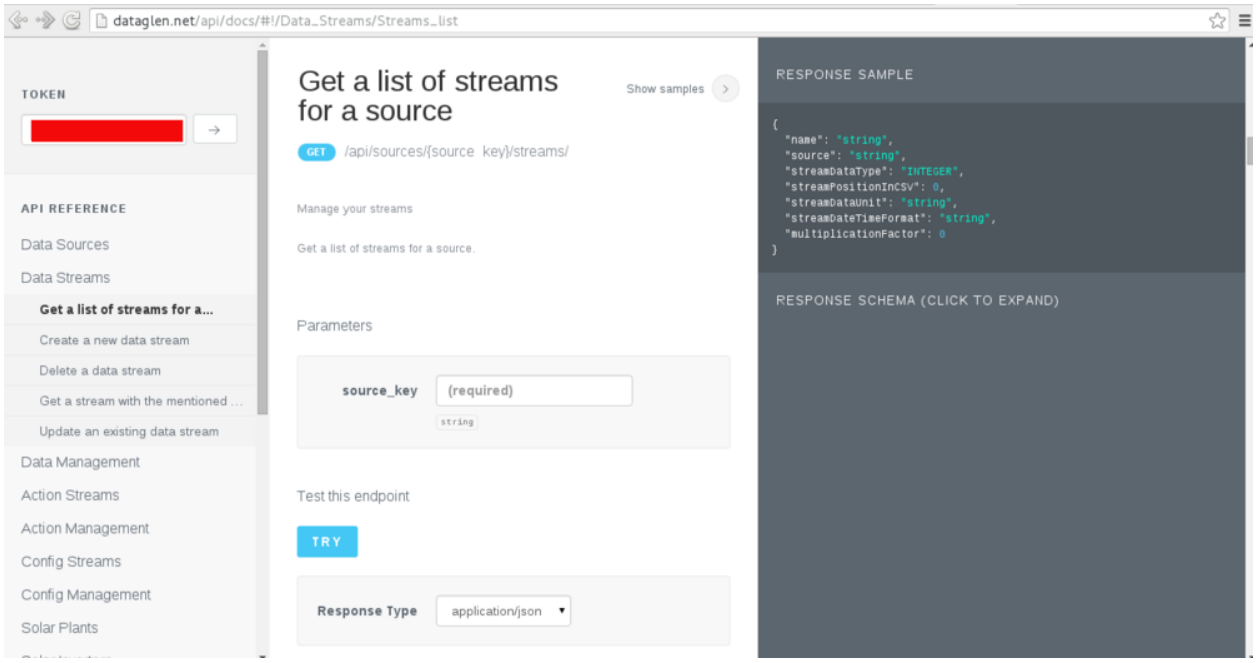
name (string): Name of the data stream, should be unique for this source,
source (string): Key of the source this stream belongs to,
streamDataType (choice) = ['INTEGER' or 'BOOLEAN' or 'STRING' or 'FLOAT' or 'LONG' or 'MAC' or 'TIMESTAMP' or 'DATE' or 'TIME']: Type of the data this stream reports,

streamDataUnit (string): Data Unit,
streamDateTimeFormat (string): DateTime field values should be reported in ISO 8601 formats. You can specify custom formats here,
streamPositionInCSV (integer): Applicable only if source dataFormat is CSV, should be unique,
multiplicationFactor (number): Multiplication factor for this stream, applicable only for numerical streams. Defaults to one.

Error Status Codes

HTTP Status Code	Reason
200	Success
400	If the source key mentioned is invalid (INVALID_SOURCE_KEY).
401	Not authenticated

This API looks like the below image on the API docs page:



This API can be accessed directly from the code in any language.
Below is the code sample to get the list of streams for a data source:

```
API=’your API key’
SOURCE_KEY=’source key of data source’
# Get list of data streams for any data source
   def get_data_streams(self):
         self.server_address = 'http://www.dataglen.net'
      self.sources_url = '/api/sources/'
      self.api_key = API
      self.token = 'Token ' + self.api_key
      self.url = self.server_address + self.sources_url + SOURCE_KEY + '/streams/'
      self.auth_header = {'Authorization ': self.token}
      response = requests.get(self.url, headers=self.auth_header)
      print(response.status_code)
```

2.2.2 Create a new Data Stream

API: /api/sources/{source_key}/streams (POST)

Description: You can add data streams for any data source using above API

Parameters:

Parameter Name	Parameter Type	Data Type
source_key	path	string
body	body	body

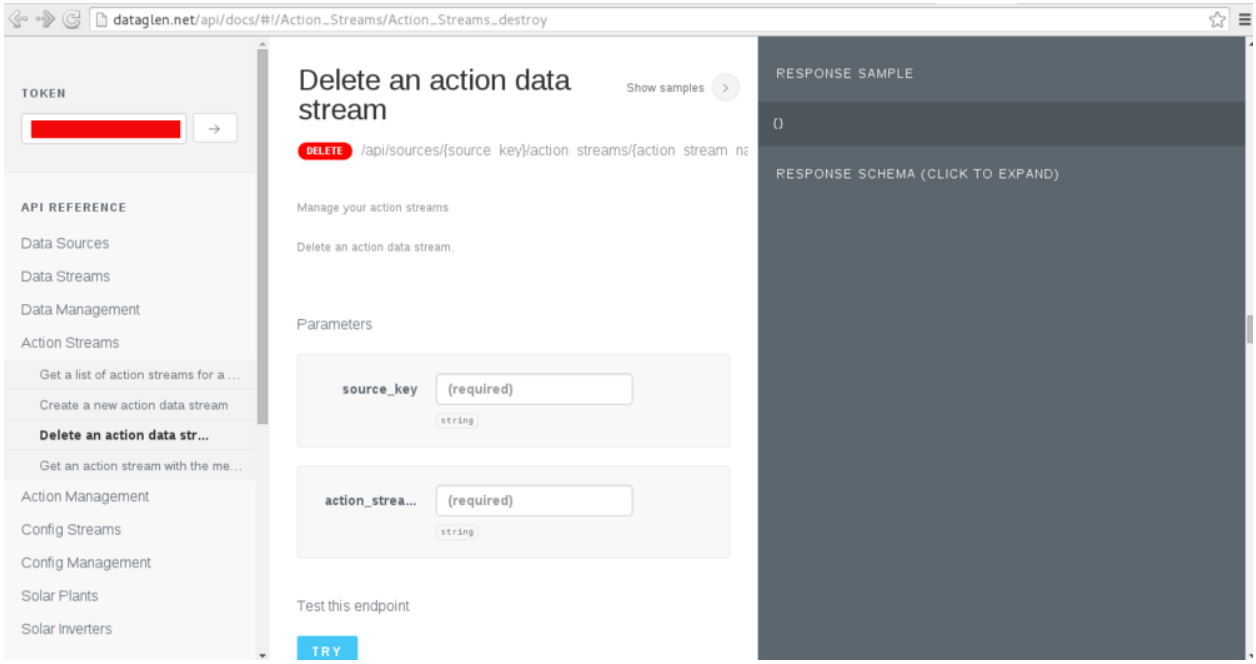
Response:

name (string): Name of the data stream, should be unique for this source,
source (string): Key of the source this stream belongs to,
streamDataType (choice) = ['INTEGER' or 'BOOLEAN' or 'STRING' or 'FLOAT' or 'LONG' or 'MAC' or 'TIMESTAMP' or 'DATE' or 'TIME']: Type of the data this stream reports,
streamDataUnit (string): Data Unit,
streamDateTimeFormat (string): DateTime field values should be reported in ISO 8601 formats. You can specify custom formats here,
streamPositionInCSV (integer): Applicable only if source dataFormat is CSV, should be unique,
multiplicationFactor (number): Multiplication factor for this stream, applicable only for numerical streams. Defaults to one.

Error Status Codes

HTTP Status Code	Reason
201	Success. Accompanied with details of the new stream.
400	If the source key mentioned is invalid (INVALID_SOURCE_KEY) or If any of the essential parameters are missing/invalid (BAD_REQUEST).
409	If a stream with the mentioned name OR position already exists (DUPLICATE_STREAM).
401	Not authenticated

This API looks like the below image on the API docs page:



This API can be accessed directly from the code in any language.
Below is the code sample to add a data stream for any data source:

```
API=’your API key’
SOURCE_KEY=’source key of data source’
# Add a new stream for a data source
    def add_data_stream(self):
        self.server_address = 'http://www.dataglen.net'
        self.sources_url = '/api/sources/'
        self.api_key = API
        self.token = 'Token ' + self.api_key
        self.url = self.server_address + self.sources_url + SOURCE_KEY + '/streams/'
        self.post_body = {
                        "name": "test_stream2",
                        "streamDataType": "INTEGER",
                        "streamPositionInCSV": 2
```

```
                }
        length = sys.getsizeof(self.post_body)
        self.auth_header = {'Authorization ': self.token, 'content-length': length, 'content-type':
'application/json'}
        response = requests.post(self.url, data=json.dumps(self.post_body),
headers=self.auth_header)
        print(response.status_code)
```

2.2.3 Delete a Data stream

API: /api/sources/{source_key}/streams/{stream_name} (DELETE)

Description: You can delete a data stream using above API.

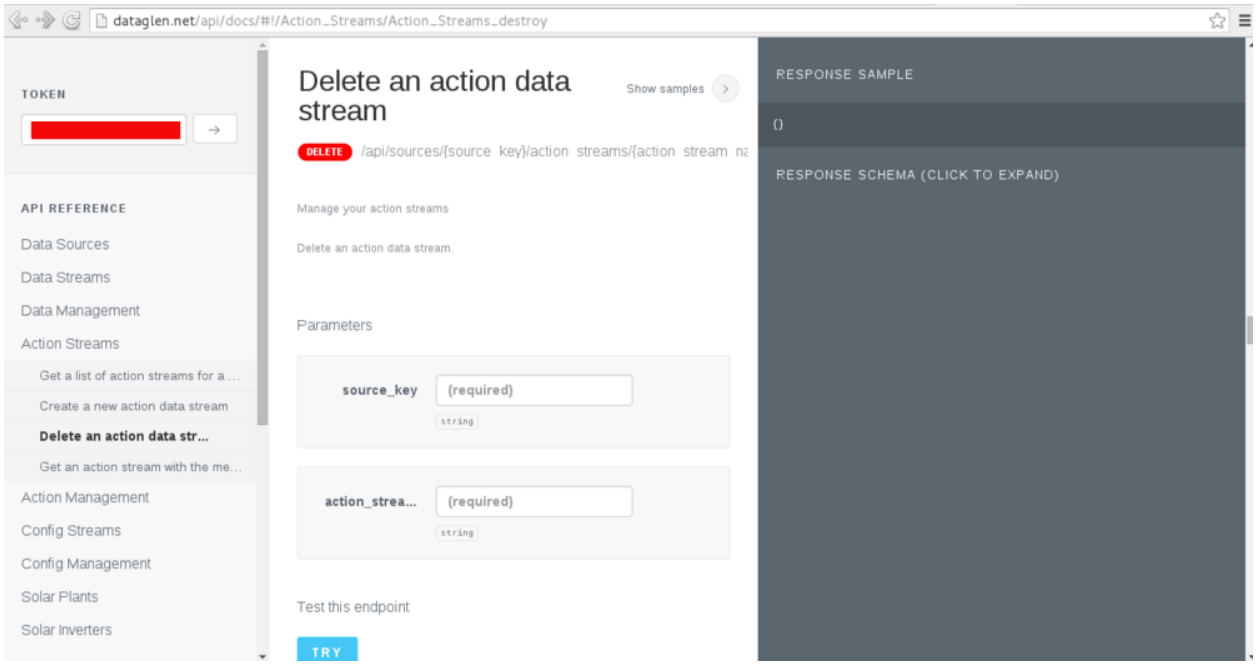
Parameters:

Parameter Name	Parameter Type	Data Type
source_key	path	string
stream_name	path	string

Error Status Codes

HTTP Status Code	Reason
204	Success. The source has been deleted.
400	If the specified source key does not exist (INVALID_SOURCE_KEY) or If the specified stream name does not exist (INVALID_DATA_STREAM).
401	Not authenticated

This API looks like the below image on the API docs page:



2.2.4 Get a stream with mentioned name

API: /api/sources/{source_key}/streams/{stream_name} (GET)

Description: You can get the details of any particular stream using above API.

Parameters:

Parameter Name	Parameter Type	Data Type

source_key	path	string
stream_name	path	string

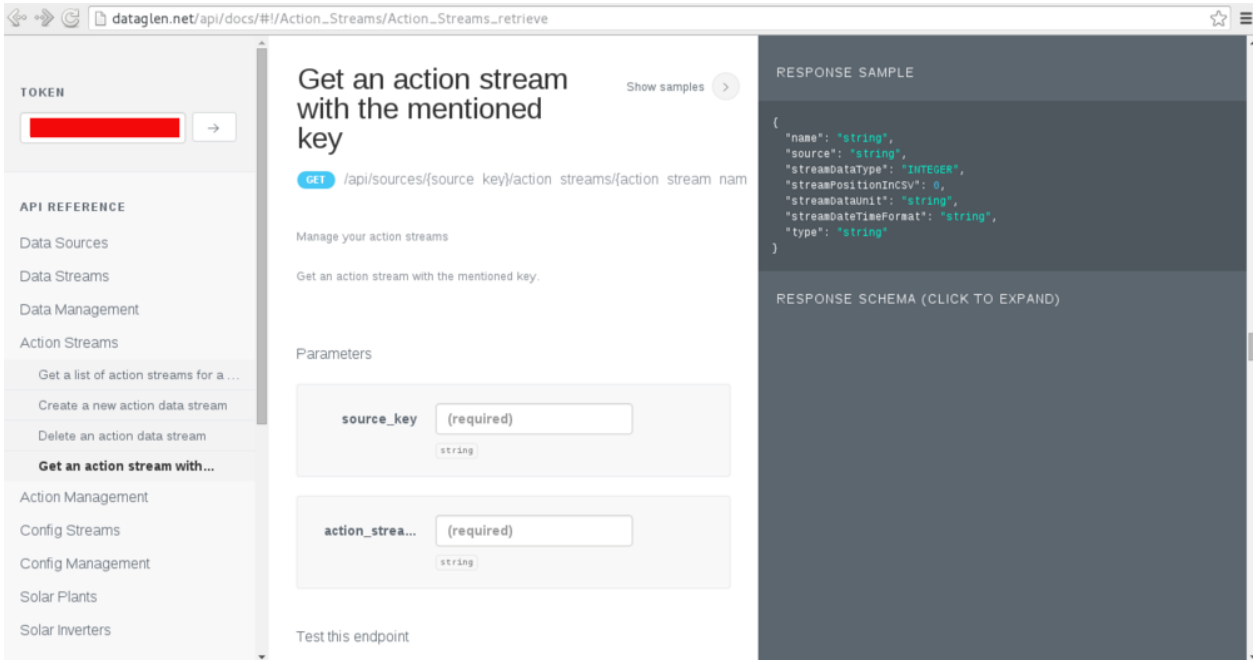
Response:

name (string): Name of the data stream, should be unique for this source,
source (string): Key of the source this stream belongs to,
streamDataType (choice) = ['INTEGER' or 'BOOLEAN' or 'STRING' or 'FLOAT' or 'LONG' or 'MAC' or 'TIMESTAMP' or 'DATE' or 'TIME']: Type of the data this stream reports,
streamDataUnit (string): Data Unit,
streamDateTimeFormat (string): DateTime field values should be reported in ISO 8601 formats. You can specify custom formats here,
streamPositionInCSV (integer): Applicable only if source dataFormat is CSV, should be unique,
multiplicationFactor (number): Multiplication factor for this stream, applicable only for numerical streams. Defaults to one.

Error Status Codes

HTTP Status Code	Reason
200	Success
400	If the specified source key does not exist (INVALID_SOURCE_KEY) or If the specified stream name does not exist (INVALID_DATA_STREAM).
401	Not authenticated

This API looks like the below image on the API docs page:



2.2.5 Update an existing Data Stream

API: /api/sources/{source_key}/streams/{stream_name} (PATCH)

Description: You can update an existing data stream using above API.

Parameters:

Parameter Name	Parameter Type	Data Type
source_key	path	string
stream_name	path	string
body	body	body

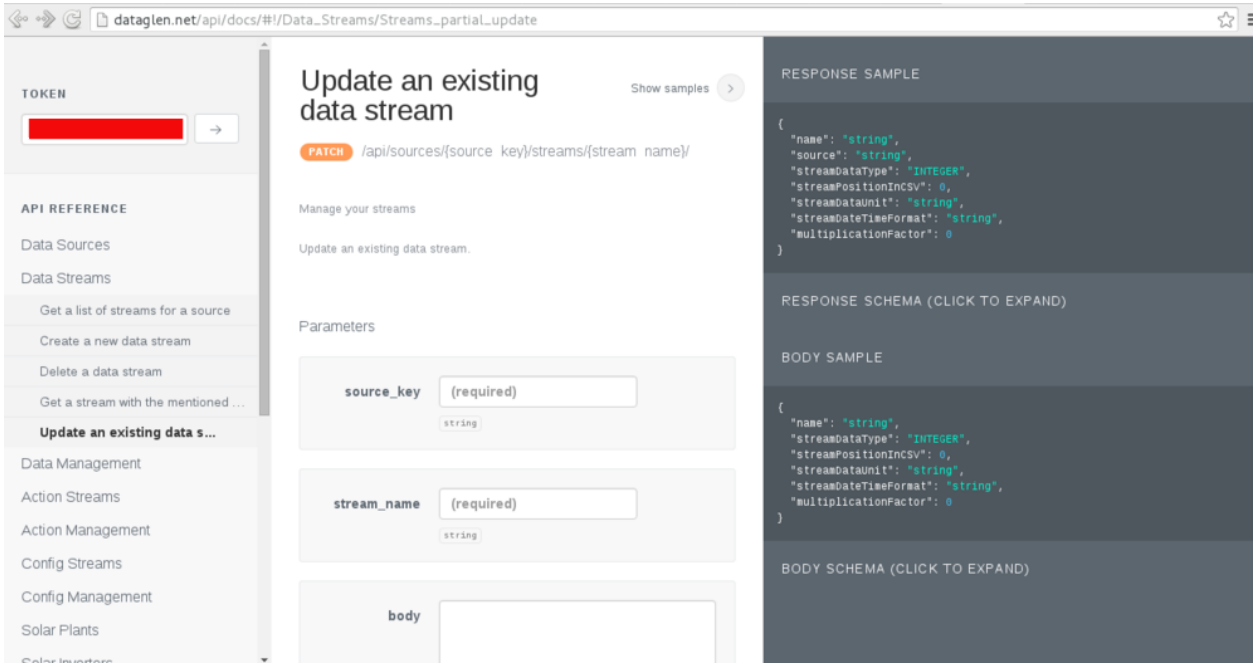
Response:

name (string): Name of the data stream, should be unique for this source,
source (string): Key of the source this stream belongs to,
streamDataType (choice) = ['INTEGER' or 'BOOLEAN' or 'STRING' or 'FLOAT' or 'LONG' or 'MAC' or 'TIMESTAMP' or 'DATE' or 'TIME']: Type of the data this stream reports,
streamDataUnit (string): Data Unit,
streamDateTimeFormat (string): DateTime field values should be reported in ISO 8601 formats. You can specify custom formats here,
streamPositionInCSV (integer): Applicable only if source dataFormat is CSV, should be unique,
multiplicationFactor (number): Multiplication factor for this stream, applicable only for numerical streams. Defaults to one.

Error Status Codes

HTTP Status Code	Reason
201	Success
401	Not authenticated
400	If the specified key does not exist (INVALID_SOURCE_KEY) or If the specified key does not exist (INVALID_DATA_STREAM).

This API looks like the below image on the API docs page:



2.3 API's related to Data Management

2.3.1 **Get a list of data records for a source and a set of data streams**

API: /api/sources/{source_key}/data/ (GET)

Description: You can get a list of data records for a source and a set of data streams specified using above API for a particular span of time specified. If the number of records is greater than 1000, then the latest 1000 records are fetched.

Parameters:

Parameter Name	Parameter Type	Description	Data Type
source_key	path		string
startTime	query	Start time of data lookup. It should be in ISO 8601 format. If there's no timezone mentioned, the default timezone will be of the source.	string
endTime	query	End time of data lookup. It should be in ISO 8601 format. If there's no timezone mentioned, the default timezone will be of the source.	string
streamNames	query	A comma separated list of stream names that should be included in the data. If this parameter is not specified, all streams will be included.	string

If no stream name is specified, it shows the records for all the data streams.

Response:

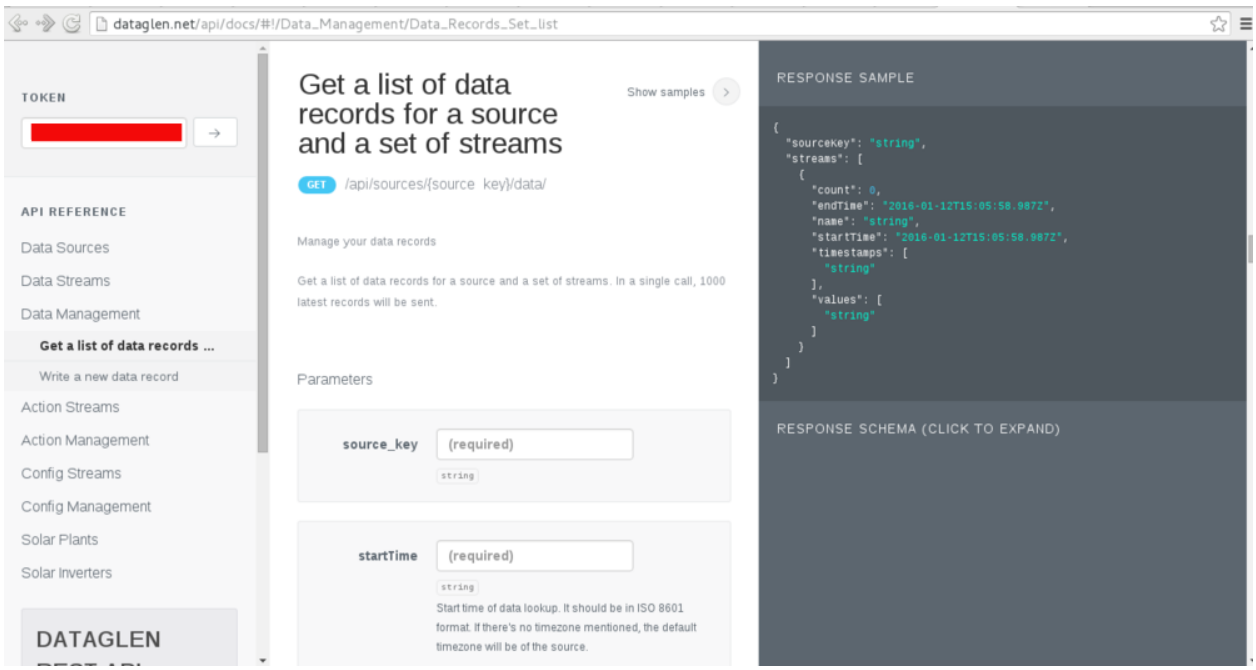

```
{
  "sourceKey": "string",
  "streams": [
    {
      "count": 0,
```

```
    "endTime": "2016-01-12T16:25:44.917Z",
    "name": "string",
    "startTime": "2016-01-12T16:25:44.917Z",
    "timestamps": [
      "string"
    ],
    "values": [
      "string"
    ]
   }
  ]
}
```


Error Status Codes

HTTP Status Code	Reason
200	Success
400	If essential parameters are not specified in the request or dates are not mentioned in the correct format (BAD_REQUEST) or If the source key mentioned is invalid (INVALID_SOURCE_KEY) or If there is an invalid stream present in streamsNames (INVALID_DATA_STREAM)
401	Not authenticated

This API looks like the below image on the API docs page:



This API can be accessed directly from the code in any language.
Below is the code sample to fetch the data records in python. Using this code sample all the data records can be fetched within the time span specified:

```
API=’your API key’
SOURCE_KEY=’source key of data source’
#get data records
def getData(self,st,et):
        self.server_address = 'http://www.dataglen.net'
        self.sources_url = '/api/sources/'
        self.api_key = API
        self.token = 'Token ' + self.api_key
        streamNames = 'ADC1_R'
        count = 1000
        total_count = 0
        self.url = self.server_address + self.sources_url + SOURCE_KEY + '/data/'
        self.auth_header = {'Authorization ': self.token }
        while count==1000:
            self.params = {'startTime': str(st), 'endTime': str(et), 'streamNames':
str(streamNames)}
```

```
        response = requests.get(self.url, headers=self.auth_header, params=self.params)
        resp_dict = json.loads(response.content)
        count = resp_dict['streams'][0]['count']
        if count == 0:
            break
        et = resp_dict['streams'][0]['startTime']
        print(resp_dict['streams'][0]['count']),
(resp_dict['streams'][0]['startTime']),(resp_dict['streams'][0]['endTime'])
```

Above code snippet is written for one data stream which can be extended to any number of streams.

2.3.2 Write a new data record

API: /api/sources/{source_key}/data/ (POST)

Description: You can write new data records for the data streams of any source.

Parameters:

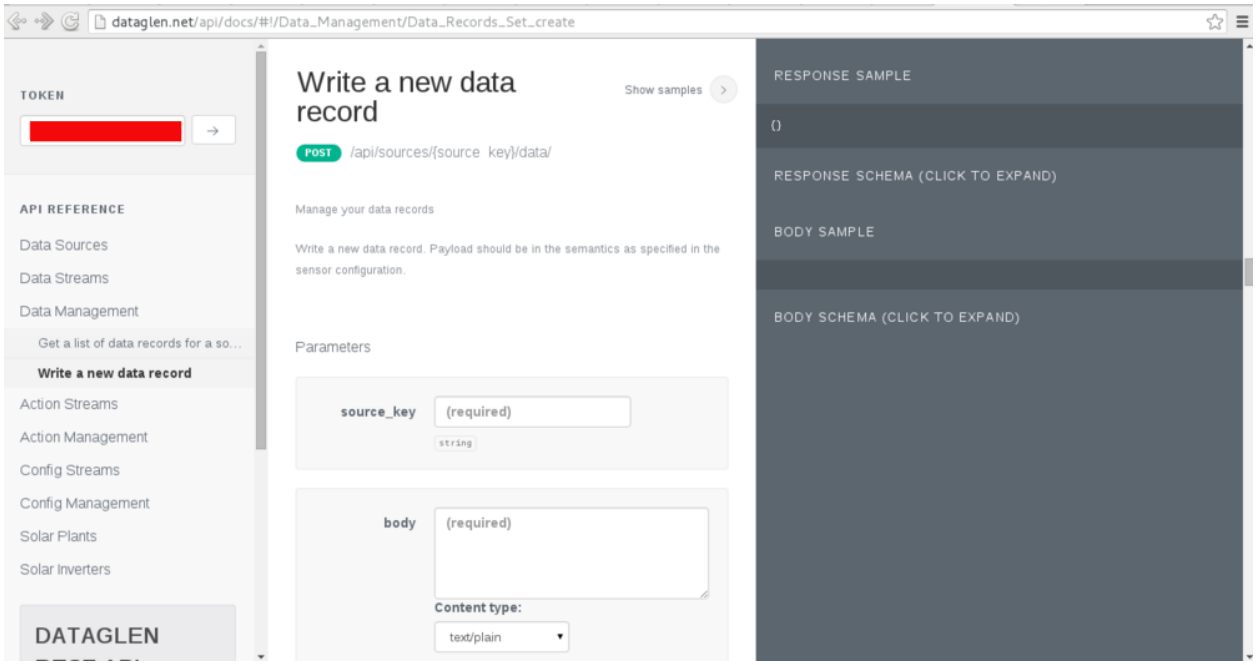
Parameter Name	Parameter Type	Data Type
source_key	path	string
body	body	body

Error Status Codes

HTTP Status Code	Reason
201	Success. New action has been written into the database.
400	If the source key mentioned is invalid (INVALID_SOURCE_KEY) or If any of the essential parameters are missing/invalid (BAD_REQUEST) or If there is an error

	retrieving the payload (ERROR_RETRIEVING_PAYLOAD) or If there is an error splitting multiple records (ERROR_SPLITTING_RECORDS) or If there is an error in parsing multiple action streams (ERROR_SPLITTING_STREAMS) or If the data provided in the request body is not proper as per the data units of streams (INVALID_DATA).
`401`	Not authenticated

This API looks like the below image on the API docs page:



This API can be accessed directly from the code in any language.
Below is the code sample to write new data record in CSV format.

```
API=’your API key’
SOURCE_KEY=’source key of data source’
# write a new data record in csv format
```

```
   def write_data_csv(self):
      self.server_address = 'http://www.dataglen.net'
      self.sources_url = '/api/sources/'
      self.api_key = API
      self.token = 'Token ' + self.api_key
      self.url = self.server_address + self.sources_url + SOURCE_KEY+ '/data/'
      self.post_body = '1,2'
      length = sys.getsizeof(self.post_body)
      self.auth_header = {'Authorization ': self.token, 'content-length': length, 'content-type':
'text/plain'}
      response = requests.post(self.url, data=self.post_body, headers=self.auth_header)
      print(response.status_code)
```

Below is the code sample to write data records in json format:

```
API=’your API key’
SOURCE_KEY=’source key of data source’
# write a new data record in json format
   def write_data_json(self):
        self.server_address = 'http://www.dataglen.net'
      self.sources_url = '/api/sources/'
      self.api_key = API
      self.token = 'Token ' + self.api_key
      self.url = self.server_address + self.sources_url + SOURCE_KEY+ '/data/'
      self.post_body = [{'test_stream1':100}, {'test_stream2':200}]
      length = sys.getsizeof(self.post_body)
      self.auth_header = {'Authorization ': self.token, 'content-length': length, 'content-
type': 'application/json'}
      response = requests.post(self.url, data=json.dumps(self.post_body),
headers=self.auth_header)
      print(response.status_code)
```

2.4 API's related to Action Management

2.4.1 Get a list of Pending actions for a given data source

API: /api/sources/{source_key}/action/ (GET)

Description: You can get all the output fields for any source for which the state/value has been changed and the changes that are not acknowledged using above API i.e. the pending actions for a given source.

Parameters:

Parameter Name	Parameter Type	Data Type
source_key	path	string

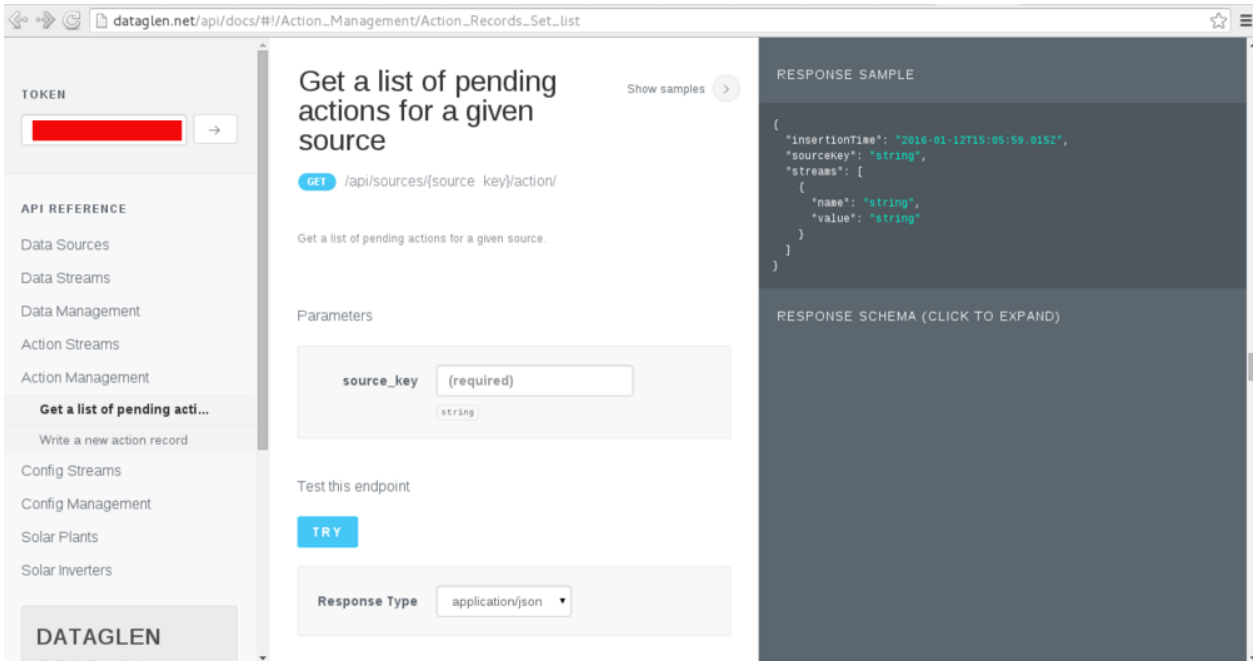

```
{
  "insertionTime": "2016-01-12T16:25:44.956Z",
  "sourceKey": "string",
  "streams": [
    {
      "name": "string",
      "value": "string"
    }
  ]
}
```


Error Status Codes

HTTP Status Code	Reason
200	Success

`400`	If the source key mentioned in invalid (INVALID_SOURCE_KEY) or If essential parameters are not specified in the request or dates are not mentioned in the correct format.(BAD_REQUEST)
`401`	Not authenticated

This API looks like below image on the API docs page:



This API can be accessed directly from the code in any language.
Below is the code sample to get a list of pending devices in python.

```
API=’your API key’
SOURCE_KEY=’source key of data source’
# get action
    def action_get(self):
        self.server_address = 'http://www.dataglen.net'
```

```
self.sources_url = '/api/sources/'
self.api_key = API
self.token = 'Token ' + self.api_key
self.url = self.server_address + self.sources_url + SOURCE_KEY + '/action/'
self.auth_header = {'Authorization ': self.token}
response = requests.get(self.url, headers=self.auth_header)
print(response.status_code)
```

2.4.2 Write a new action record

API: /api/sources/{source_key}/action/ (POST)

Description: You can create a new action record using above API.

Parameters:

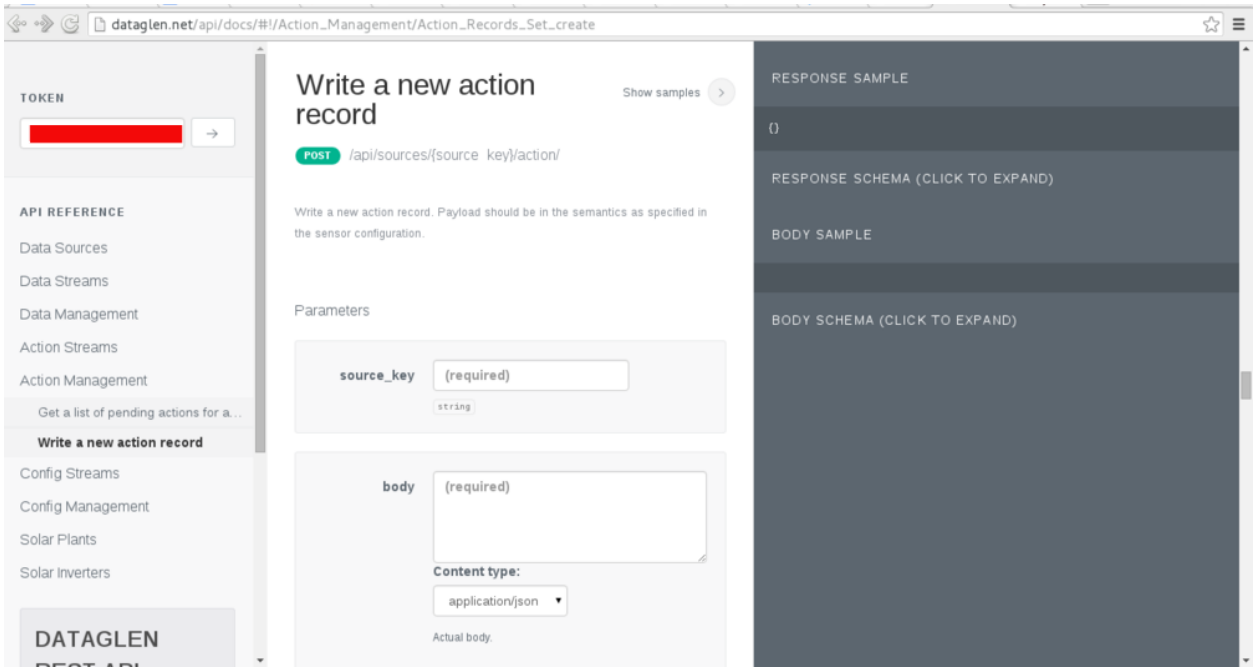
Parameter Name	Parameter Type	Data Type
source_key	path	string
body	body	body

Error Status Codes

HTTP Status Code	Reason
201	Success. New action has been written into the database.
400	If the source key mentioned is invalid (INVALID_SOURCE_KEY) or If any of the essential parameters are missing/invalid (BAD_REQUEST) or If there is an error retrieving the payload (ERROR_RETRIEVING_PAYLOAD) or If there is an error splitting multiple records (ERROR_SPLITTING_RECORDS) or If there is an error in

	parsing multiple action streams (ERROR_SPLITTING_STREAMS) or If the data provided in the request body is not proper as per the data units of streams (INVALID_DATA).
`401`	Not authenticated

This API looks like below image on the API docs page:



This API can be accessed directly from the code in any language.
Below is the code sample to get a list of pending devices in python.

```
API=’your API key’
SOURCE_KEY=’source key of data source’
# create action record
```

```
   def action_create_post(self):
      self.server_address = 'http://www.dataglen.net'
      self.sources_url = '/api/sources/'
      self.api_key = API
      self.token = 'Token ' + self.api_key
      self.url = self.server_address + self.sources_url + SOURCE_KEY + '/action/'
      self.post_body ={"action-stream1":10,"action-stream2":20}
      length = sys.getsizeof(self.post_body)
      self.auth_header = {'Authorization ': self.token, 'content-length': length, 'content-type':
'application/json'}
      response = requests.post(self.url , data =json.dumps(self.post_body) ,
headers=self.auth_header)
      print(response.status_code)
```