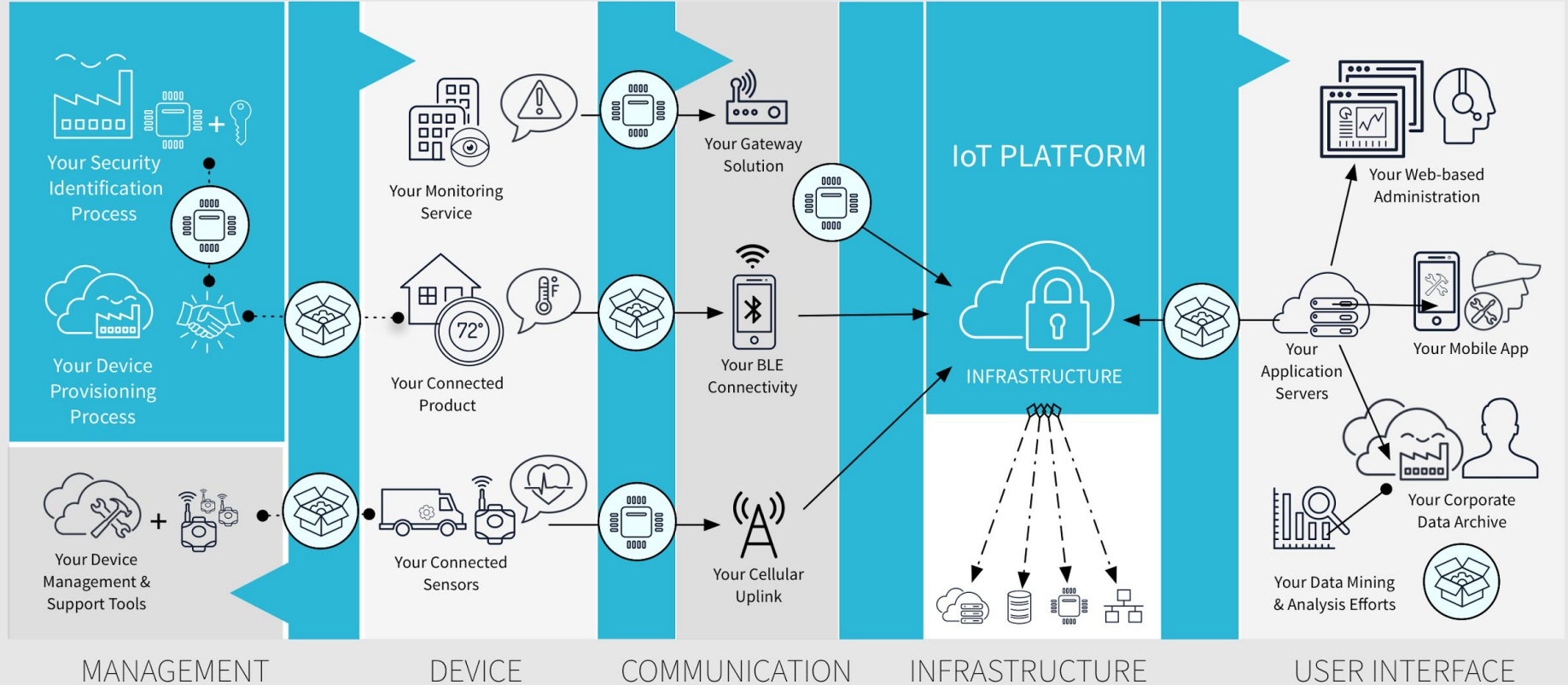


Connect Exosite Cloud



Lioson Liu

THE EXOSITE IOT PLATFORM



API Document Link



<http://docs.exosite.com>

<http://docs.exosite.com>



<http://docs.exosite.com>

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<http://docs.exosite.com>

<http://docs.exosite.com>

Example Code

	Arduino Examples		Qualcomm Hardware Platform Support
	Microchip Hardware Platform Support		Synapse Wireless Hardware Platform Support
	Texas Instruments Hardware ExositeReady Code		Renesas Hardware Platform Support
	MultiTech Hardware Platform Support		Broadcom Hardware Platform Support
	Gainspan Hardware Platform Support		

Libraries

	Arduino Exosite Library		One Platform C Library as a part of Embedded SDK
	One Platform Python Library		One Platform Node Library
	One Platform C++ Library		One Platform Java Library
	One Platform Go Library		

Concept



Host address : m2.exosite.com:80

=> Country

CIK(Client Interface Key) : 40 bytes

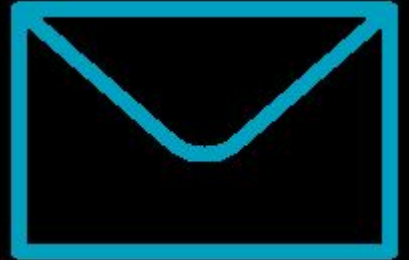
=>Address

Alias : Name of dataport

=>PA

RID(Resource Identify Key) : 40 bytes

=>Paul Anderson



Note: HTTP port is 80, HTTPS port is 443(TLS,SSL)

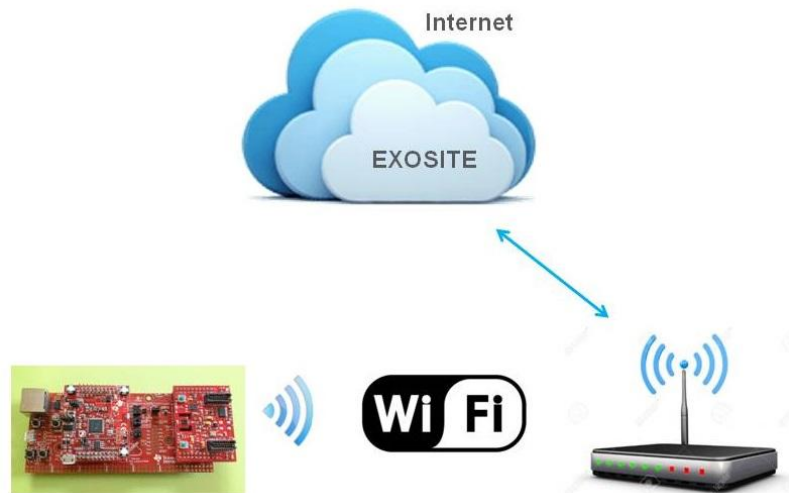
How to request CIK?

Maximum Production - Provisioning

1. Vendor / Model / Model ID
2. Activate device
3. Get CIK from cloud, save to device's flash.

R&D - Hard coding

1. Get CIK from portal
2. Copy it to firmware



Http Write/Read - Format

	REQUEST	RESPONSE
WRITE	<pre>POST /onep:v1/stack/alias HTTP/1.1 Host: m2.exosite.com X-Exosite-CIK: <CIK> Content-Type: application/x-www-form-urlencoded; charset=utf-8 Content-Length: <length> <blank line> <alias 1>=<value 1>&<alias 2...>=<value 2...>&<alias n>=<value n></pre>	<pre>HTTP/1.1 204 No Content Date: <date> Server: <server> Connection: Close Content-Length: 0 <blank line></pre>
READ	<pre>GET /onep:v1/stack/alias?<alias 1>&<alias 2...>&<alias n> HTTP/1.1 Host: m2.exosite.com X-Exosite-CIK: <CIK> Accept: application/x-www-form-urlencoded; charset=utf-8 <blank line></pre>	<pre>HTTP/1.1 200 OK Date: <date> Server: <server> Connection: Close Content-Length: <length> <blank line> <alias 1>=<value 1>&<alias 2...>=<value 2...>&<alias n>=<value n></pre>

Connect cloud with PC

Steps

1. Download Git : <https://git-scm.com/downloads> and install it.
2. Run “Git Bash”
3. Communication Example

Read	<code>curl http://m2.exosite.com/onep:v1/stack/alias?temp -H 'X-Exosite-Clk: 9977e8ff79a69df15206eb50b9aa6bbd12b91781' -H 'Accept: application/x-www-form-urlencoded; charset=utf-8'</code>
Write	<code>curl http://m2.exosite.com/onep:v1/stack/alias -H 'X-Exosite-Clk: 9977e8ff79a69df15206eb50b9aa6bbd12b91781' -H 'Accept: application/x-www-form-urlencoded; charset=utf-8' -d 'temp=27&humidity=60'</code>
Long Polling	<code>curl http://m2.exosite.com/onep:v1/stack/alias?temp -H 'X-Exosite-Clk: 9977e8ff79a69df15206eb50b9aa6bbd12b91781' -H 'Accept: application/x-www-form-urlencoded; charset=utf-8' -H 'Request-Timeout:30000 ' -H 'If-Modified-Since: '</code>

Http Write - example

1. cURL

```
curl http://m2.exosite.com/onep:v1/stack/alias  
-H 'X-Exosite-Clk: 9977e8ff79a69df15206eb50b9aa6bbd12b91781'  
-H 'Accept: application/x-www-form-urlencoded; charset=utf-8' -d 'temp=27&humidity=60'
```



2.

Request	Response
<pre>POST /onep:v1/stack/alias HTTP/1.1 Host: m2.exosite.com X-Exosite-Clk: 9977e8ff79a69df15206eb50b9aa6bbd12b91781 Content-Type: application/x-www-form-urlencoded; charset=utf-8 Content-Length: 19 <length> <blank line> temp=27&humidity=60</pre>	<pre>HTTP/1.1 204 No Content Date: Fri, 19 Feb 2016 03:12:07 GMT Server: nginx Connection: Close Content-Length: 0 <blank line></pre>

Http Read - example

1. cURL

```
curl http://m2.exosite.com/onep:v1/stack/alias?temp  
-H 'X-Exosite-ClK: 9977e8ff79a69df15206eb50b9aa6bbd12b91781'  
-H 'Accept: application/x-www-form-urlencoded; charset=utf-8'  
***Note: Each time only can read one datapoint when use "curl".***
```



2. Device

Request	Response
GET /onep:v1/stack/alias? temp&humidity HTTP/1.1 Host: m2.exosite.com X-Exosite-ClK:9977e8ff79a69df15206eb50b9aa6bbd12b91781 Accept: application/x-www-form-urlencoded; charset=utf-8 <blank line>	HTTP/1.1 200 OK Date: Fri, 19 Feb 2016 03:12:07 GMT Server: nginx Connection: Close Content-Length: 12 <blank line> temp=25&humidity=50

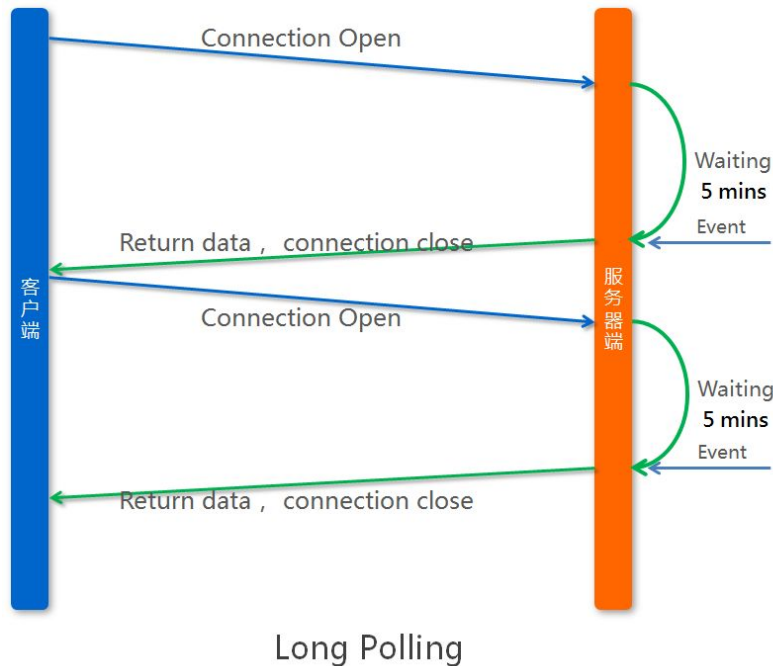
Http Long Polling Read - example

1. cURL

```
curl http://m2.exosite.com/onep:v1/stack/alias?temp  
-H 'X-Exosite-Clk: 9977e8ff79a69df15206eb50b9aa6bbd12b91781'  
-H 'Accept: application/x-www-form-urlencoded; charset=utf-8'  
-H 'Request-Timeout:30000 '  
-H 'If-Modified-Since: '
```

2. Device

```
GET /onep:v1/stack/alias?temp HTTP/1.1  
Host: m2.exosite.com  
X-Exosite-Clk: 9977e8ff79a69df15206eb50b9aa6bbd12b91781  
Accept: application/x-www-form-urlencoded; charset=utf-8  
Request-Timeout:30000  
If-Modified-Since:  
<blank line>
```



Http typical response

Code	Response	Description
200	OK	Successful request, returning requested values
204	No Content	Successful request, nothing will be returned
4xx	Client Error	There was an error* with the request by the client
401	Unauthorized	No or invalid CIK
5xx	Server Error	There was an error with the request on the server



RPC (Remote Procedure Call) Introduction

1.Content type - JSON

2.Ability

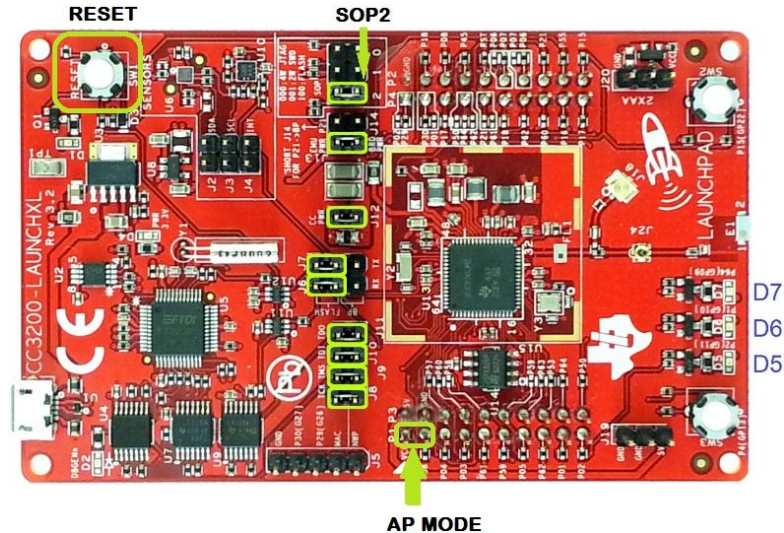
Time Series Data	- read,write,writegroup,record,recordbatch,flush,wait
Resources	- create(client,dataport,datarule,dispatch,clone),move,update,info,listing,usage
Aliases	- map,lookup,usage
Shares and Keys	- share,revoke,lookup,activate,deactivate

3.Link - <http://docs.exosite.com/rpc/>

4.Android Example - <https://github.com/exosite-garage/AndroidThermostat>

Exercise by using cc3200

Requirement: CC3200 Launchpad, CCS uniflash



Exercise by using cc3200

CC3200 Programming Steps:

1. Place jumper on SOP2 of LaunchPad, plug usb power.
2. Open CCS uniflash.
3. File->Open Configuration, browse file "ExositeReady-CC3200(Customer Use Only)\flash\ExositeReadyDemo.usf", and press OK button.
4. Set the "COM Port" , execute "Format" and then "Program" .
5. Close CCS uniflash, remove USB power on launchpad. Remove SOP2 jumper and place the jumper on P1->VCC,P58 for AP mode setting
6. Plug USB power, launchpad now is in AP mode. Find the SSID named "mysimplelink-XXXXXX", connect it.
7. Open a new browser, connect to "http://192.168.1.1" , select "Setup" page, input the wifi profile information. And push "add" button. Go to "About" page, write down the MAC Address, ex: F4:B8:5E:CB:A9:E7
8. Remove usb power and remove jumper on P1->VCC,P58.

Exercise by using cc3200

Requirement: A valid portal account

Portal setting step:

1. Logging in to "<https://ti.exosite.com/login>", if you don't have an account, apply one.
2. Select "Device" on left panel, click "+Add Devices" on up-right side, a windows will pop up.
3. Select "CC3200 LaunchPad" , click "continue", so we defined the "Vendor" and "Model" here.
4. Input the MAC Address(the one you write down) and other information. Here we provide the MAC Address as "Model ID"
5. Click "CONTINUE" and then click "QUIT"
6. A dashboard will pop up but no data. Plug usb power into LaunchPad.

Exercise by using cc3200

Debug:

Requirement: Tera Term

1. Open Tera Term, select Setup->Serial port, Set the right port, set baudrate as 115200, click "OK"
2. Press "SW1" on LaunchPad
3. Observe the message window

Exosite Portals playground for Arrow AU

1. Congrats that you finished above items!
2. Exosite Portals is an User Interface for quick data-cloud validation.
3. A subdomain had created for the team: <https://arrow.exosite.com>