EE 1301: IoT

“Setting up and using cURL”

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cURL is an open source tool which implements a multitude of application and transport protocols which are used on everyday internet. This includes HTTP, HTTPS, FTP, SMTP etc. What cURL does is to handle data transfer and exchange using URLs.

An example URL would be - <https://www.google.com/earth/images/hubble_v838-lg.jpg>

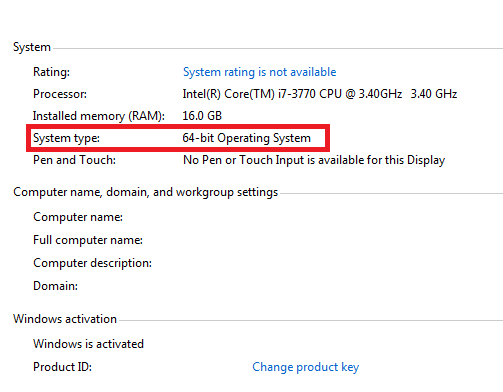
Now, of course, this will directly open in your browser. So why would you need cURL? This is just a simple HTTPS GET. However, there are other URLs that your browser cannot directly handle without background HTML or likewise scripting. Hence, to avoid doing that we use a pre-built tool which does the job for us.

|  |  |  |
| --- | --- | --- |
| The example below shows how to use **curl** to call a cloud function. In the example, the setMode cloud function is called with an argument of “Heat”.   |  | | --- | | curl <https://api.particle.io/v1/devices/0123456789abcdef/setMode>   -d access\_token=123412341234 -d "args=Heat" |   On the microcontroller, the registered function setModeFromString will be called, and it will set the mode variable to HEAT.   |  | | --- | | void setup() {  Particle.function("setMode", setModeFromString); }  int setModeFromString(String inputString) {  if (inputString=="Heat") {  mode = HEAT;  return 1;  } | |

**Installing cURL - Windows**

Getting cURL up and running will not be a traditional Windows installation in it’s sense.

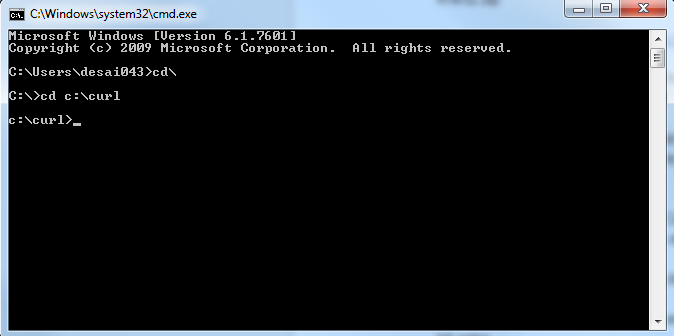
1. Go to <http://curl.haxx.se/download.html> and find the right package for you.
2. Open My Computer and right click and click on Properties to find your machine type.



1. For 32-Bit machines download - http://curl.haxx.se/gknw.net/7.40.0/dist-w32/curl-7.40.0-rtmp-ssh2-ssl-sspi-zlib-idn-static-bin-w32.zip

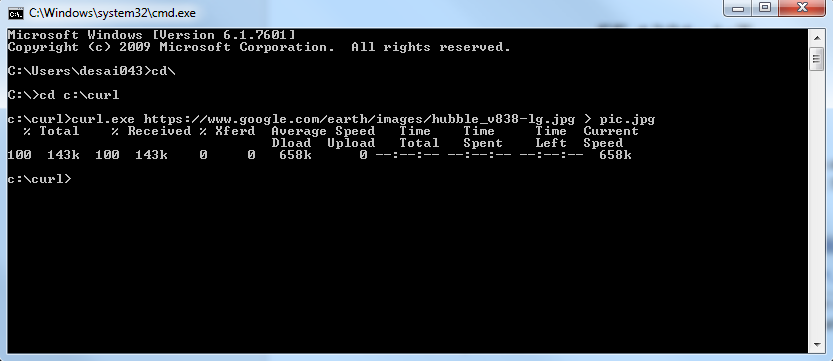
For 64-Bit machines download - <http://home.arcor.de/skanthak/download/curl-7.44.0.cab>

1. Both these packages are packaged folder which you’ll need to extract. Let say under C:\curl\. Create a folder named “curl” under C:\ and extract the contents there.
2. Once you’ve downloaded, you should have curl.exe in that folder! Note that we have downloaded a version which supports SSL (TLS) which is needed to work with the Particle Cloud.
3. Now, we have to download the CA Certificate Bundle (for SSL/TLS). You need not worry too much about this. All you need to do is go to <http://curl.haxx.se/docs/caextract.html>.
4. Right Click on - “[ca-bundle.crt](https://raw.githubusercontent.com/bagder/ca-bundle/master/ca-bundle.crt)” and click “Save link as...” and save it in C:\curl\ created a moment ago.
5. Now, let try using cURL. Open up command prompt by opening “Run” and typing cmd and hit enter.
6. Now type in the following : cd\, cd c:\curl



1. Now copy the URL (<https://www.google.com/earth/images/hubble_v838-lg.jpg>) mentioned at the beginning of this document and type the command below:

curl.exe https://www.google.com/earth/images/hubble\_v838-lg.jpg > pic.jpg



You should now be able to open pic.jpg (saved under C:\curl) which is the same image that would see when you open the URL <https://www.google.com/earth/images/hubble_v838-lg.jpg> in your web browser!

Congratulations! You just did a HTTPS GET using cURL.

Your cURL should now be set up and good to go!

**Installing cURL - Linux**

On Ubuntu or other linux distributions, you should be able to get cURL on your machine using the below two commands:

sudo apt-get install curl

sudo apt-get install libcurl4-openssl-dev

or

sudo apt-get install libcurl4-gnutls-dev

After this you should be able to do TLS/SSL using cURL normally using terminal..

**Installing cURL - OS-X**

cURL may already be installed by default on Mac OSX. Try it first! If you have issues you can try to install it yourself using a program called HomeBrew.

Start here:

<http://brew.sh/>

Then simply do:

brew install curl