API tutorial

1. Visit www.citysdk.cn

2. Register as a user
   a) Click “注册(sign up)”
      b) Enter your information

      ![Registration Form]

      - **User name**
      - **Password**
      - **Repeat password**
      - **Phone number (mainland China only)**
      - **CAPTCHA**
      - **CAPTCHA (received by SMS)**
      - **Agreement checkbox**

      Contestants without mainland China phone number cannot register, please skip to section 5.

   c) Complete the registration and login

      ![Login Form]

      - **User name / Phone number**
      - **Password**
      - **CAPTCHA**
3. Certification
   a) Personal certification
      1. Click "立刻认证 (Authenticate now)" under "用户中心 (user profile)"

      2. Choose "个人 (Personal)", enter your information, Authentication method: photo, phone and credit/debit card.

Contestants without mainland China ID cannot finish this part, please skip to section 5.
1. Choose “企业(Enterprise)”, enter information

- Enterprise info.
  - Company name
  - Company address
  - Business license number
  - Tax registration certification number
  - Organization number
  - Copy of business license

- Contact info.
  - Contact name
  - Contact ID number
  - Phone number
  - Company Email
  - Agreement checkbox

4. Apply for API
   a) Click API
b) Choose API and then click “申请(apply)”

c) Accept service agreement

5. API Call

Server does not support JS Cross-origin resource sharing (error: Response to preflight request doesn't pass access control check: No 'Access-Control-Allow-Origin' header is present on the requested resource.)

1. Agreement
   Interface call is using HTTP remote invocation, client invocation and return response synchronously.
   Data format: json

2. Request
   a. Request mode: get/post, Service address url format:
      http://domain/[service]/[servicename]
      domain: domain name
      service: service name
      servicename: API name

   b. The protocol header contains the following attributes:
      Content-Type: application/json;charset=utf-8;
c. Request header contains the following attributes:

- **user-date**: call date. Format: yyyyMMddHHmmssSSS. 17 characters string date, use 24-hour format, such as 20160101160758675

- **authorization**: authorization code = dc:{apikey}:{signature}. authorization code consists of three parts, separated by an English colon.

3. Response

The response message media type is application/json;charset=utf-8

4. Authentication information

<table>
<thead>
<tr>
<th>apikey</th>
<th>can be viewed in user profile page after user registration and authentication</th>
</tr>
</thead>
<tbody>
<tr>
<td>secretkey</td>
<td>can be viewed in user profile page after user registration and authentication</td>
</tr>
</tbody>
</table>
| authorization     | 1st part: dc (fixed value)  
2nd part: apikey  
3rd part: data signature  
Example: dc:test-apikey:ODExQUJENUFCRTBDQTc5NzM4RkQ2RTUzQ2zE2MDQyNUY=  
Data signature, encoding format:  
signature =  
BASE64 {  
    Hmac_sha1{  
        user-params + line break  
        + user-date + line break  
    }  
}  
The data signature is encrypted by hmac sha1 using base64 encoding, hmac sha1 key is secretkey  
Detail:  
Parameters:  
- **secretkey**: can be viewed in user profile page after user registration and authentication  
- **user-params**: Request parameters, “null” without request arguments, using & to split when multiple parameters involved, for example: indexCode=HSI&date=2016-12-01  
- **user-date**: call date (current date), Format: yyyyMMddHHmmssSSS. 17 characters string date, use 24-hour format, such as 20160101160758675  
- **line break**: "\n"  

procedure:

1. use hmac sha1 and secretkey be the encoding key to encode \{user-params \+ line break \+ user-date \+ line break\} and output it as hex format string.  
2. use base64 encoding to encode the hex format string obtained last step (might need to convert to UTF-8 encoding first), the output is the signature.  
3. connect "dc", apikey and signature separated by "":" to get the authorization.  

| user-date         | Format: yyyyMMddHHmmssSSS. 17 characters string date, use 24-hour format, such as 20160101160758675 |

5. Contestants cannot complete register and certification please contact ycaiap@cse.ust.hk to get apikey and secretkey.