

MUSIC CRAWLER & MUSIC PLAYER

TRƯƠNG CÔNG TRUNG
ITITIU19059

$$\frac{1}{\sqrt{2}} = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

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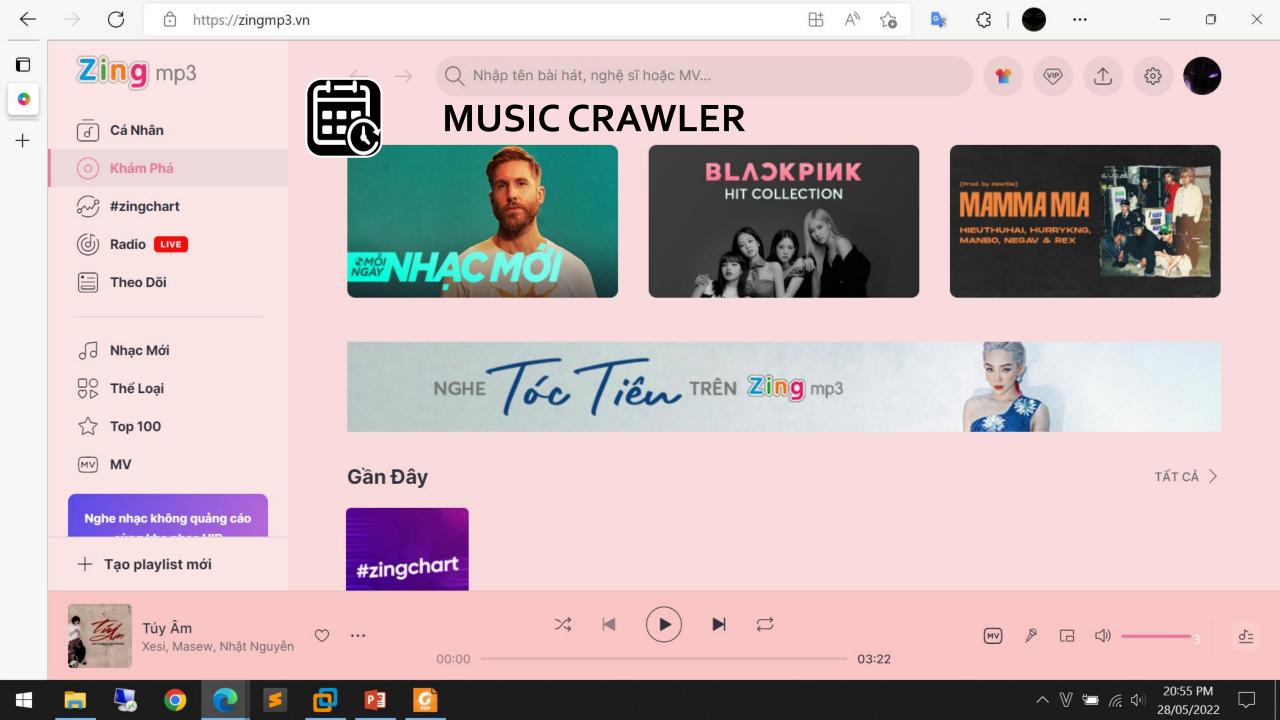
$$\frac{1}{\sqrt{2}} = \frac{1}{\sqrt{2}} =$$

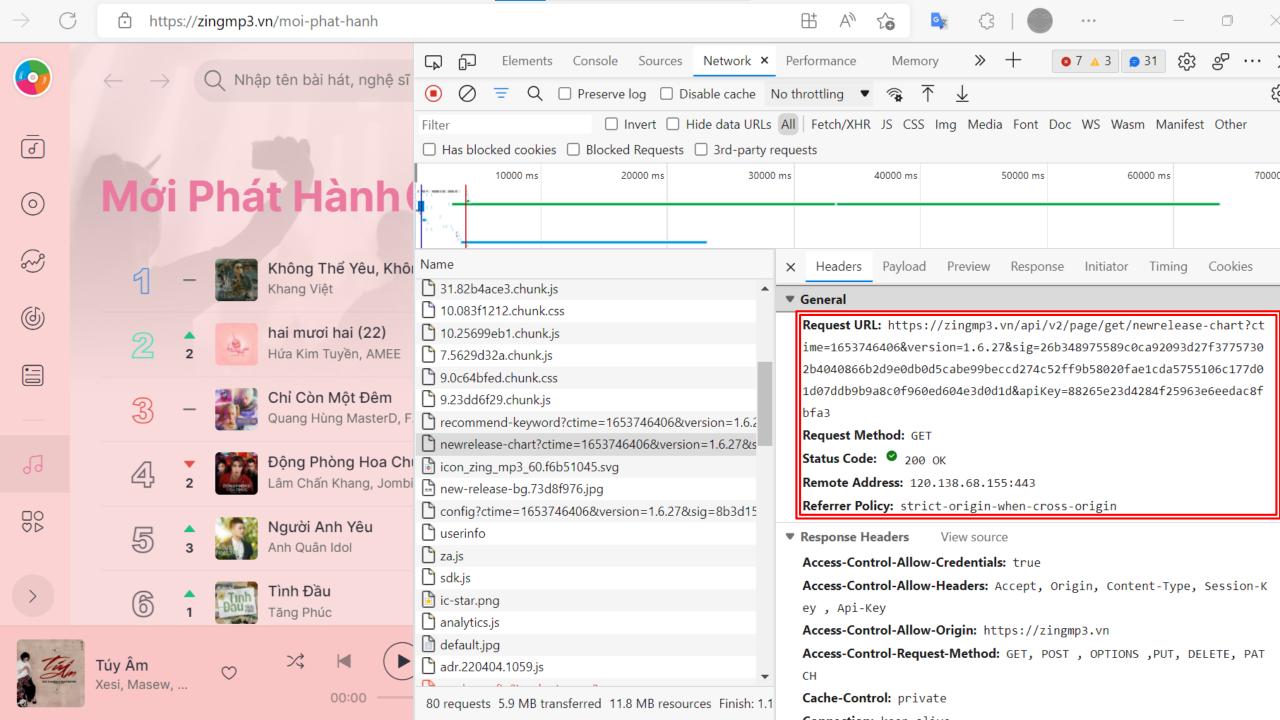


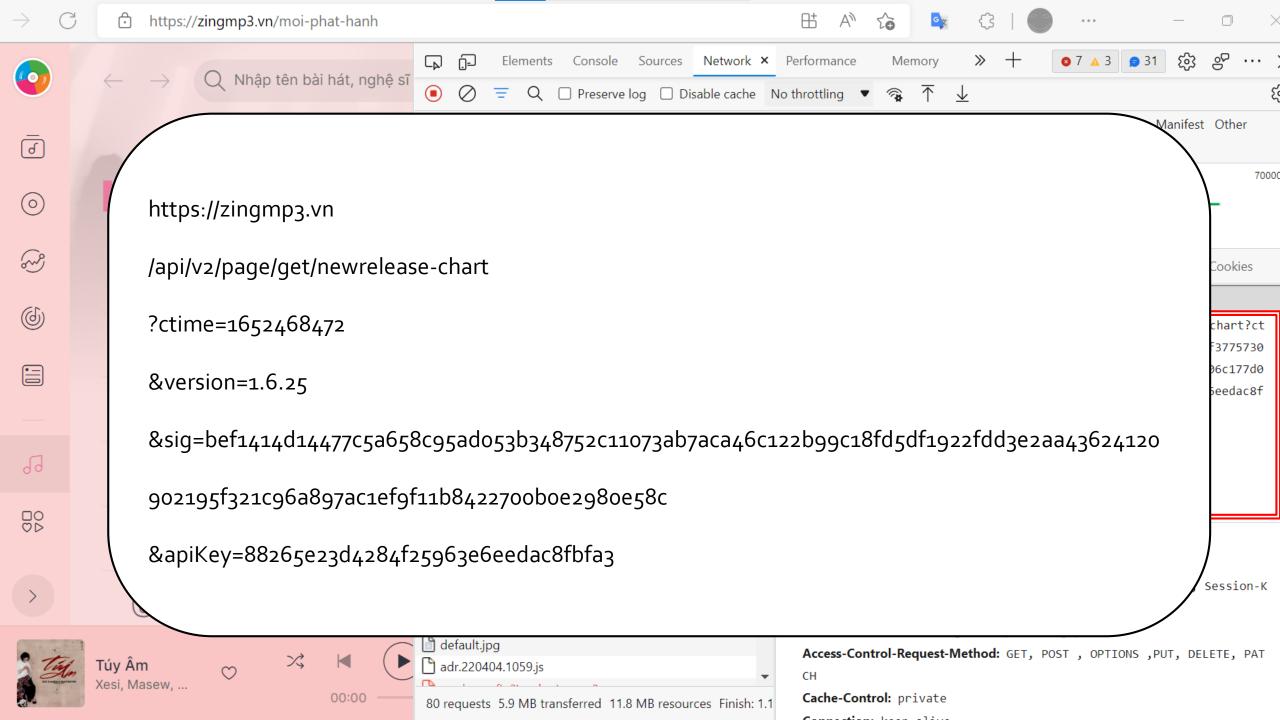
I. Music Crawler

II. Music Player

III. Demonstrate







https://zingmp3.vn

/api/v2/page/get/newrelease-chart /api/v2/page/get/song /api/v2/lyric/get/lyric /api/v2/song/get/streaming

/api/v2/page/get/newrelease-chart

_time = str(int(datetime.datetime.now().timestamp()))

?ctime=1652468472

&version=1.6.25

&sig=bef1414d14477c5a658c95ado53b348752c11o73ab7aca46c122b9 9c18fd5df1922fdd3e2aa43624120902195f321c96a897ac1ef9f11b842 2700b0e2980e58c

&apiKey=88265e23d4284f25963e6eedac8fbfa3

&sig=bef1414d14477c5a658c95ado53b348752c11o73ab7aca46c122b99c18fd5df1922fdd3e2aa4362412o9o2195f321c96a897ac
1ef9f11b84227ooboe298oe58c

	161911100422/0000629006300						
	0 == :1/ = :	00-6	d 0. f C C-	- d - a0fb f - a			
Name	&apiKey=88265e23d4284f25963e6eedac8fbfa3					Ful	Waterfall
🛅 31.82b4ace3.chunk.js					4 ms	(dis	
10.083f1212.chunk.css	200	stylesheet	main.min.js:2	0 B	4 ms	(dis	l e
10.25699eb1.chunk.js	200	script	main.min.js:2	0 B	6 ms	(dis	
7.5629d32a.chunk.js	200	script	main.min.js:2	0 B	13 ms	(dis	l e
9.0c64bfed.chunk.css	200	stylesheet	main.min.js:2	0 B	4 ms	(dis	
🖰 9.23dd6f29.chunk.js	200	script	main.min.js:2	0 B	3 ms	(dis	
recommend-keyword?ctime=1653746406&versi	200	fetch /	main.min.js:2	747 B	31 ms		
newrelease-chart?ctime=1653746406&version=	200	fetch	main.min.js:2	34.4 kB	71 ms		
icon_zing_mp3_60.f6b51045.svg	200	svg+xml	main.min.csa	0 B	0 ms	(m	
🖺 new-release-bg.73d8f976.jpg	200	jpeg	main.min.css	0 B	0 ms	(m	
config?ctime=1653746406&version=1.6.27&sig	200	fetch	main.min.js:2	3.7 kB	56 ms		
userinfo	200	xhr	session-sdk.min.js:1	1.6 kB	118 ms		
🖺 za.js	200	script	moi-phat-hanh	0 B	1 ms	(dis	
🖺 sdk.js	200	script	moi-phat-hanh	108 B	80 ms		
🖻 ic-star.png	200	png	main.min.js:2	92 B	47 ms		
analytics.js	200	script	main.min.js:2	0 B	23 ms	(dis	
default.jpg	302	/ Redirect	main.min.js:2	40 B	349 ms		
adr.220404.1059.js	200	script	main.min.js:2	0 B	7 ms	(dis	
		. '				•	I I

```
function y(t) {
    var e = arguments.length > 1 && void 0 !== arguments[1] ? arguments[1] : {};
    return e.ctime = Object(u.currentTime)(),
        e.version = o.d,
        e.sig = m(t, e),
        e.apiKey = h,
```

```
, c = n(598)
6664
           , l = n.n(c)
6665
           f = n(599)
6666
           , d = n.n(f)
6667
           , h = "88265e23d4284f25963e6eedac8fbfa3"
6668
6669
           , p = | "ctime", "id", "type", "page", "count", "version"];
         function m(t, e) {
6670
6671
             var n = function(t) {
6672
                 var e = g(t)
                   , n = [];
6673
                 for (var r in e)
6674
                      -1 !== p.indexOf(r) && null !== t[r] && void 0 !== t[r] && "" !== t[r:
6675
6676
                 return v(n, "")
             }(e)
6677
               r = 1()("" + n);
6678
             return d()(t + r, "2aa2d1c561e809b267f3638c4a307aab")
6679
6680
         var g = function(t) {
6681
             var e = {};
6682
6683
             return Object.keys(t).sort().forEach((function(n) {
                 e[n] = t[n]
6684
6685
             )),
6686
6687
6688
6689
           , v = function(t) {
             var e = arguments.length > 1 && void 0 !== arguments[1] ? arguments[1] : "&"
6690
               , n = encodeURIComponent;
6691
             return Object.keys(t).map((function(e) {
6692
                 return n(t[e]).length > 5e3 ? "" : "".concat(n(e), "=").concat(n(t[e]))
6693
6694
             )).filter((function(t) {
6695
                 return "" !== t
6696
6697
```

```
main.min.js
                  main.min.js:formatted ×
           s = n(123)
6662
                                                                                                  Paused on breakpoint
           u = n(28)
6663
           , c = n(598)
6664
           , l = n.n(c)
                                                                                                  ▼ Threads
6665
           f = n(599)
6666
                                                                                                  → Main
                                                                                                                                           paused
6667
           , d = n.n(f)
6668
           , h = "88265e23d4284f25963e6eedac8fbfa3"
                                                                                                    service-worker.js #237 (activated)
           , p = ["ctime", "id", "type", "page", "count", "version"];
6669
         function m(t, e) {
6670
                                                                                                  ▶ Watch
             var n = function(t) {
6671
                 var e = g(t) t = "/api/v2/page/get/newrelease-chart"
6672
                                                                                                  ▼ Breakpoints
6673
                   , n = [];
                 for (var r in e) e = {ctime: 1653748656, version: '1.6.27'}
6674
                                                                                                   main.min.js:formatted:6679
                      -1 !== p.indexOf(r) && null !== t[r] && void 0 !== t[r] && "" !== t[r]
6675
                                                                                                      return d()(t + r, "2aa2d1c561e809b267f363...
                 return v(n, "")
6676
             }(e) e = {ctime: 1653748656, version: '1.6.27'}
6677
                                                                                                  Scope
               r = 1()("" + n); n = "ctime=1653748656version=1.6.27"
6678
             Preturn Dd()D(t + r, "2aa2d1c561e809b267f3638c4a307aab")
6679
                                                                                                  ▼ Local
6680
                                                                                                     this: undefined
         var g = function(t) {
6681
                                                                                                    ▶ e: {ctime: 1653748656, version: '1.6.27'}
             var e = {};
6682
                                                                                                     n: "ctime=1653748656version=1.6.27"
             return Object.keys(t).sort().forEach((function(n) {
6683
                                                                                                   ▼ r: init
                 e[n] = t[n]
6684
6685
                                                                                                       sigBytes: 32
             )),
6686
                                                                                                     ▶ words: (8) [1508505069, -1095563851, -98475
6687
                                                                                                     ▶ [[Prototype]]: Object
6688
                                                                                                     t: "/api/v2/page/get/newrelease-chart"
           , v = function(t) {
6689
                                                                                                  ▶ Closure
             var e = arguments.length > 1 && void 0 !== arguments[1] ? arguments[1] : "&"
6690
                                                                                                  ▶ Global
               , n = encodeURIComponent;
6691
                                                                                                                                            Window
             return Object.keys(t).map((function(e) {
6692
                                                                                                  ▼ Call Stack
                 return n(t[e]).length > 5e3 ? "" : "".concat(n(e), "=").concat(n(t[e]))
6693
6694
                                                                                                                          main.min.js:formatted:6679
                                                                                                  \rightarrow m
             )).filter((function(t) {
6695
                 return "" I== t
6696
                                                                                                                          main.min.js:formatted:6705
```

```
def urlGeneration(name api: str, param: dict) -> str:
    API KEY = '88265e23d4284f25963e6eedac8fbfa3'
    SECRET KEY = b'2aa2d1c561e809b267f3638c4a307aab'
    def get hash256(string):
        return hashlib.sha256(string.encode('utf-8')).hexdigest()
    def get hmac512(string):
        return hmac.new(SECRET KEY, string.encode('utf-8'), hashlib.sha512).hexdigest()
    text = "".join([f"{k}={v}" for k,v in param.items()])
    sha256 = get hash256(text)
    data = {
        'ctime': param["ctime"],
        'sig': get hmac512(f"{name api}{sha256}"),
        'apiKey': API KEY
    data.update(param)
    return f"https://zingmp3.vn{name api}?{urlencode(data)}"
```

```
def urlGeneration(name api: str, param: dict) -> str:
   API KEY = '88265e23d4284f25963e6eedac8fbfa3'
   SECRET KEY = b'2aa2d1c561e809b267f3638c4a307aab'
   def get hash256(string):
                                SHA512(
           Hash256("/api/v2/page/get/newrelease-
                                                                       est()
          chartctime=1653748656version=1.6.27"),
             "2aa2d1c561e809b267f3638c4a307aab"
       'apiKey': API KEY
   data.update(param)
   return f"https://zingmp3.vn{name api}?{urlencode(data)}"
```

```
\mathcal{C}
              https://github.com/hatienl0i261299/Zingmp3/blob/master/zingmp3.py
                                                                                                          \Box
              Tes = Sell.IT(apl=apl)
31D
              return res
316
317
          def get api with signature(self, name api, param, another param=None):
318
              API KEY = 'kI44ARvPwaqL7v0KuDSM0rGORtdY1nnw'
319
320
              SECRET KEY = b'882QcNXV4tUZbvAsjmFOHqNC1LpcBRKW'
              if not name api:
321
322
                  return
323
324
              def get_hash256(string):
                  return hashlib.sha256(string.encode('utf-8')).hexdigest()
325
326
              def get hmac512(string):
327
328
                  return hmac.new(SECRET KEY, string.encode('utf-8'), hashlib.sha512).hexdigest()
329
              url = f"https://zingmp3.vn{name_api}?"
330
              text = ""
331
332
              for k, v in param.items():
                  text += f''\{k\}=\{v\}''
333
              sha256 = get_hash256(text)
334
335
              data = {
                   'ctime': param.get("ctime"),
336
                   'apiKey': API KEY,
337
                   'sig': get hmac512(r"%s%s" % (name api, sha256))
338
339
              data.update(param)
340
              if another param:
341
                  data.update(another param)
342
              return url + urlencode(data)
343
```

× Headers Payload Preview Initiator Timing Cookies Response ▼ Request Headers View source Accept: */* **Accept-Encoding:** gzip, deflate, br **Accept-Language:** en-US,en;q=0.9,vi;q=0.8 **Connection:** keep-alive Cookie: zmp3 app version.1=1627; zmp3 rqid=MHwyNy43Ni4xMTAdUngMjA5fHYxLjYdUngMjd8MTY1MzmUsIC0OTE5NTA1M g DNT: 1 **Host:** zingmp3.vn **Referer:** https://zingmp3.vn/moi-phat-hanh sec-ch-ua: "Not A; Brand"; v="99", "Chromium"; v="101", "Microsoft Edge"; v="101" sec-ch-ua-mobile: 30

sec-ch-ua-platform: "Windows"

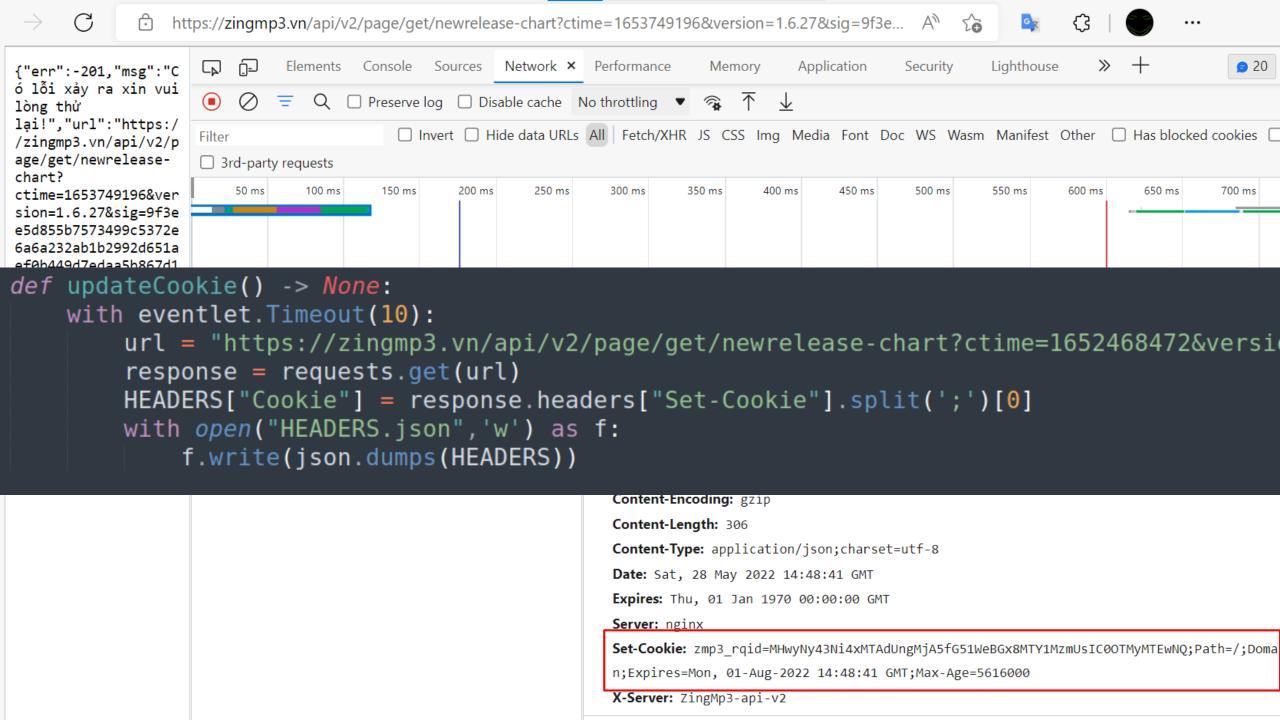
Sec-Fetch-Dest: empty

Sec-Fetch-Mode: cons

Sec-Fetch-Site: same-origin

User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/101.

0.4951.64 Safari/537.36 Edg/101.0.1210.53



```
▼ {err: 0, msg: "Success",...}
 ▼ data: {banner: "https://zmp3-static.zmdcdn.me/skins/zmp3-v5.2/images/chart-new-release-vn.png", type: "so
      banner: "https://zmp3-static.zmdcdn.me/skins/zmp3-v5.2/images/chart-new-release-vn.png"
   ▼ items: [{encodeId: "ZZBAWCCZ", title: "Không Thể Yêu, Không Thể Quên",...},...]
     ▶ 0: {encodeId: "ZZBAWCCZ", title: "Không Thể Yêu, Không Thể Quên",...}
     ▼ 1: {encodeId: "ZZBFZ0F8", title: "hai mươi hai (22)", alias: "hai-muoi-hai-22-Hua-Kim-Tuyen-AMEE",...}
       ▶ album: {encodeId: "6BO6AU68", title: "hai mươi hai (22) (Single)",...}
         alias: "hai-muoi-hai-22-Hua-Kim-Tuyen-AMEE"
         allowAudioAds: true
       ▶ artists: [{id: "IWZCOZ0I", name: "Hứa Kim Tuyền", link: "/nghe-si/Hua-Kim-Tuyen", spotlight: false,.
         artistsNames: "Hứa Kim Tuyền, AMEE"
         duration: 239
         encodeId: "ZZBFZ0F8"
       ▶ genreIds: ["IWZ9Z08I", "IWZ97FCD"]
         hasLyric: true
         indicators: []
         isIndie: false
         isOffical: true
         isPrivate: false
         isWorldWide: true
         link: "/bai-hat/hai-muoi-hai-22-Hua-Kim-Tuyen-AMEE/ZZBFZ0F8.html"
         mvlink: "/video-clip/hai-muoi-hai-22-Hua-Kim-Tuyen-AMEE/ZZBFZ0F8.html"
         preRelease: false
         rakingStatus: 2
         releaseDate: 1653480000
```

```
:r" \"items\"\s*:\s*\[.*\]
```

TEST STRING

```
hanh", "sectionType": "newReleaseChart", "sectionId": "hNewr
elease","viewType":"slider","items":
[{"encodeId":"ZZBAWCCZ","title":"Không。Thể。Yêu,。Không。
The Quen", "alias": "Khong-The-Yeu-Khong-The-Quen-Khang-
Viet","isOffical":true,"username":"","artistsNames":"Kha
ng • Việt", "artists": [{"id": "IWZ9ZB7D", "name": "Khang •
Việt","link":"/Khang-
Viet", "spotlight": false, "alias": "Khang-
Viet","thumbnail":"https://photo-resize-
zmp3.zmdcdn.me/w240_r1x1_jpeg/avatars/7/7/a/f/77af7df353
7177703cab72e92350aca6.jpg","thumbnailM":"https://photo-
resize-
zmp3.zmdcdn.me/w360_r1x1_jpeg/avatars/7/7/a/f/77af7df353
7177703cab72e92350aca6.jpg","isOA":true,"isOABrand":fals
```

```
def getTopList(name api:str = \frac{1}{api}/v2/page/get/newrelease-chart', param:dict = None) -> list:
    print('\n[*] Getting list of song')
    with eventlet.Timeout(10):
        if param:
            url = urlGeneration(name_api, {'ctime': time,'id':param["id"],'version':'1.6.25'})
        else:
            url = urlGeneration(name api, {'ctime': time,'version':'1.6.25'})
        response = requests.get(url,headers=HEADERS)
        checking(response)
        data = re.findall(r'\"items\"\s*:\s*\[.*\]', response.content.decode('utf-8'))
        data = json.loads(data[0].split("\"items\":")[1])
        res = []
        for items in data:
            res.append([items["encodeId"], items["link"]])
    return res
```

```
Getting list of song
     Number of song: 100
                                                                                        ist:
p [['ZZBAWCCZ', '/bai-hat/Khong-The-Yeu-Khong-The-Quen-Khang-Viet/ZZBAWCCZ.html'], ['ZZB
     hai-muoi-hai-22-Hua-Kim-Tuyen-AMEE/ZZBFZ0F8.html'], ['ZZBEU099', '/bai-hat/Chi-Con
     ZZBEU099.html'], ['ZZBF8700', '/bai-hat/Dong-Phong-Hoa-Chuc-Lam-Chan-Khang-Jombie/
     bai-hat/Nguoi-Anh-Yeu-Anh-Quan-Idol/ZZB8DABW.html'], ['ZZBAFB9A', '/bai-hat/Tinh-D5'})
     ZZC00UI6', '/bai-hat/Bien-Cat-Nang-Xanh-Vang-Trang-Nguyen-Vu/ZZC00UI6.html'], ['ZZ
     Xem-Nhu-Anh-Chang-May-Ngot-Ngao-Den-May-Cung-Tan-Thanh-May-Remix-Nhat-Tinh-Anh-Tru
      , '/bai-hat/Em-La-Qua-Khu-Khong-The-Quen-Thien-Tu/ZZBEOFZC.html'], ['ZZC0WOCZ', '/
     '], ['ZZBDE0WC', '/bai-hat/0i-Anh-Gi-Oi-Hana-Cam-Tien-Tracy-Thao-My/ZZBDE0WC.html'
     Thuong-Em-Chau-Khai-Phong-ACV/ZZBUE7ZA.html'], ['ZZBBZ8B7', '/bai-hat/De-Em-Mai-Ye
     ZZBAUIBI', '/bai-hat/Mot-Nguoi-Nhe-Nhang-Hon-Trang-Tien-Tien/ZZBAUIBI.html'], ['ZZ
     Tinh-Thuong-Men-Thuong-Minh-Giang-Truong-Le/ZZBDZ789.html'], ['ZZBZA009', '/bai-ha
     Co-Khong-Giu-Mat-Dung-Tim-Truc-Nhan/ZZBZA009.html'], ['ZZBAWE0F', '/bai-hat/Gui-Ng
     ZZBAWEOF.html'], ['ZZBBOZEC', '/bai-hat/Doan-Tuyet-Nang-Di-Lofi-Version-Phat-Huy-T
     bai-hat/Ngay-Hanh-Phuc-Nhat-Mai-Nhu-Quynh/ZZBFAIFC.html'], ['ZZBZAU6C', '/bai-hat/
     Co-Sao-Buong-Ban-Tay-Tam-Tam-HiuV-HOA-HONG-DAI-MUSIC/ZZBZAU6C.html'], ['ZZB6DIWD',
     ZZB6DIWD.html'], ['ZZC00UU0', '/bai-hat/Chang-Gi-La-Mai-Mai-Thanh-Dat/ZZC00UU0.htm
re
     Mamma-Mia-HIEUTHUHAI-HURRYKNG-MANBO-Negav-REX/ZZB6BBZU.html'], ['ZZB6BB8C', '/bai-
```

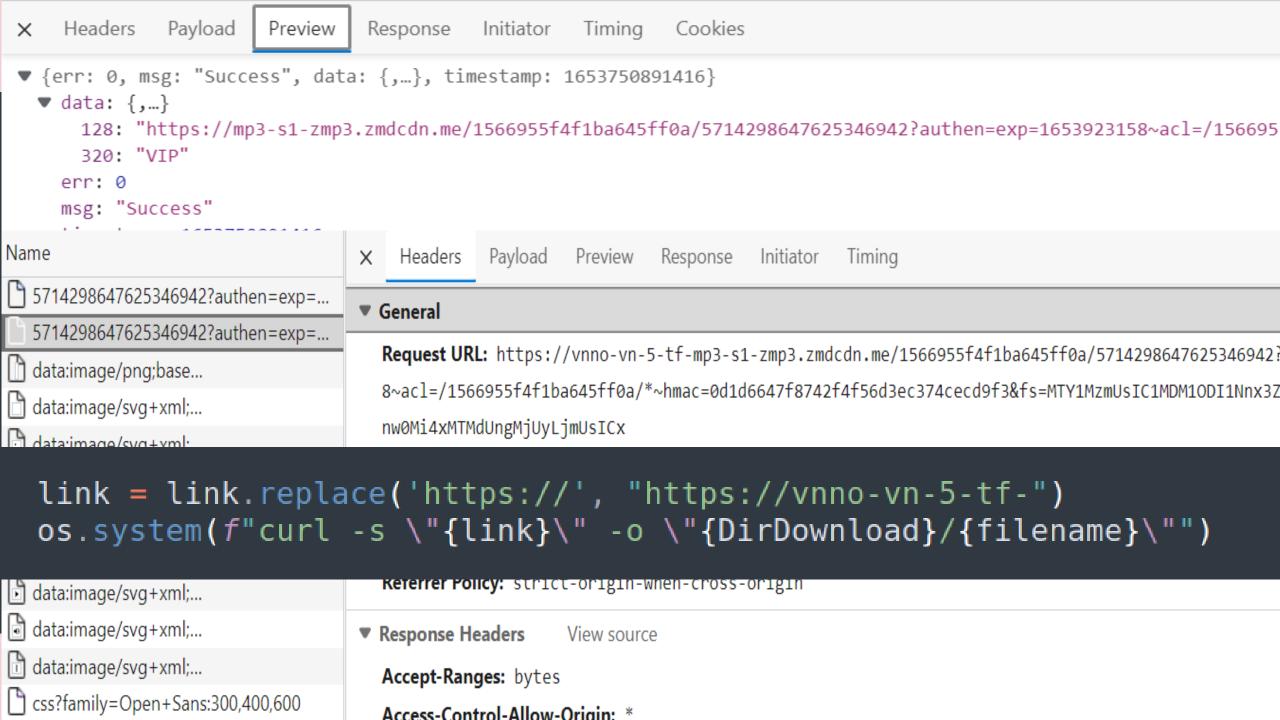
```
def getMediaFile(url: str) -> None:
    obj = re.search(r'/.*?/(?P < slug > .*?) \/(?P < id > .*?) \W', url)
    if not obj:
        print('\n[*] Error : not existed!')
        return
    obj id = obj.group('id')
    obj slug = obj.group('slug')
    with eventlet.Timeout(10):
        url = urlGeneration('/api/v2/page/get/song', {'ctime': time,'id':obj id,'version':'1.6.25'})
        response = requests.get(url,headers=HEADERS)
        checking(response)
        #print(response.content.decode('utf-8'))
        data = re.findall(r'\"data\"\s*:\s*{.*},\"timestam', response.content.decode('utf-8'))[0][:-10]
        data = json.loads(data.split("\"data\":")[1])
        title = data["title"]
```

```
▼ {err: 0, msg: "Success",...}
 ▼ data: {encodeId: "ZZBUE7ZA", title: "Thương Em", alias: "Thuong-Em-Chau-Khai-Phong-ACV", isOffical: true,...}
    ▶ album: {encodeId: "6B0I608E", title: "Thương Em (Single)",...}
      alias: "Thuong-Em-Chau-Khai-Phong-ACV"
      allowAudioAds: true
    ▶ artists: [{id: "IWZ976C7", name: "Châu Khải Phong", link: "/chaukhaiphong", spotlight: false,...},...]
      artistsNames: "Châu Khải Phong, ACV"
     comment: 1446
    ▶ composers: [,...]
     duration: 300
     encodeId: "ZZBUE7ZA"
    ▶ genreIds: ["IWZ9Z08I", "IWZ97FCD"]
    ▶ genres: [{id: "IWZ9Z08I", name: "Việt Nam", title: "Việt Nam", alias: "viet-nam",...},...]
     hasLyric: true
     indicators: []
     isIndie: false
     isOffical: true
     isPrivate: false
     isRBT: true
     isWorldWide: true
     like: 364124
     liked: false
     link: "/bai-hat/Thuong-Em-Chau-Khai-Phong-ACV/ZZBUE7ZA.html"
     listen: 6003019
      preRelease: false
```

```
def downloadLyric(target id: str) -> str:
    with eventlet. Timeout (10):
        url = urlGeneration('/api/v2/lyric/get/lyric', {'ctime': time,'id':target id,'version':'1.6.25'})
        response = requests.get(url,headers=HEADERS)
        checking(response)
        #print(response.content)
        lyric = ""
        data = re.findall(r'{\"sentences\"\s*:\s*\[.*\]}\]', response.content.decode('utf-8'))
        if data == []:
            data = re.findall(r'{\"lyric\"\s*:\s*\".*?\"', response.content.decode('utf-8'))
            if data == []:
                data = re.findall(r'{\"file\"\s*:\s*\".*?\",', response.content.decode('utf-8'))
                data = data[0].split("file\":\"")[1][:-2]
                os.system(f"curl -s \"{data}\" -o temp")
                with open('temp','r',encoding='utf-8') as f:
                    data = f.read()
                    data = (data.split("length: ")[1]).split('\n')[1:-1]
                    for i in range(len(data)):
                        data[i] = data[i].split(']')[1] if data[i].split(']') != [] else ''
                os.system(f"rm temp")
                lyric = '\n'.join(data)
            else:
                data = json.loads(data[0] + '}')
                #print(data)
                lyric = data["lyric"]
        else:
            data = json.loads(data[0].split("{\"sentences\":")[1])
            #print(data)
            for x in data:
                lyric += ' '.join([i["data"] for i in x["words"]]) + '\n'
    return lyric
```

```
def downloadLyric(target id: str) -> str:
           with eventlet.Timeout(10):
               url = urlGeneration('/api/v2/lyric/get/lyric', {'ctime': time,'id':target id,'version':'1.6.25'})
               response = requests.get(url,headers=HEADERS)
               checking(response)
               #print(response.content)
▼ {err: 0, msg: "Success", data: {,...}, timestamp: 1653750613323}
 ▼ data: {,...}
      BGMode: 0
   ▶ defaultIBGUrls: [,...]
    ▶ defaultVBGUrls: [,...]
      enabledVideoBG: true
      file: "https://static-zmp3.zmdcdn.me/lyrics/2015/1/6/16aa278d94f0d2289613528c59c83d52 1074284319.lrc"
   ▼ sentences: [{,...}, {,...}, {,...}, {,...}, {,...}, {,...}, {,...}, {,...}, {,...}, {,...}, {,...}, {,...}, {,...}, {,...}, {,...}, {,...}, {,...}, {,...}, {,...}, {,...}, {,...}, {,...}, {,...}
     ▼ 0: {,...}
       ▼ words: [{startTime: 16059, endTime: 16349, data: "Lại"}, {startTime: 16349, endTime: 16609, data: "một"},...]
         ▶ 0: {startTime: 16059, endTime: 16349, data: "Lai"}
         ▶ 1: {startTime: 16349, endTime: 16609, data: "môt"}
         ▶ 2: {startTime: 16609, endTime: 16849, data: "người"}
         ▶ 3: {startTime: 16849, endTime: 17099, data: "nữa"}
         ▶ 4: {startTime: 17099, endTime: 17399, data: "ra"}
         ▶ 5: {startTime: 17399, endTime: 18259, data: "đi"}
      ▶ 1: {,...}
      ▶ 2: {,...}
      ▶ 3: {,...}
               else:
                    data = json.loads(data[0].split("{\"sentences\":")[1])
                    #print(data)
                    for x in data:
                        lyric += ' '.join([i["data"] for i in x["words"]]) + '\n'
           return lyric
```

```
def download
   with eve REGULAR EXPRESSION
                                                        1 match (5 747 steps, 13.2ms)
                                                                            on':'1.6.25'})
      url
      resp
            :r" {\"sentences\"\s*:\s*\[.*\]}\]
                                                                 "gm
      chec
      #pri
          TEST STRING
      lyri
           {"err":0,"msg":"Success","data":{"sentences":[{"words":
      data
      if d
           [{"startTime":16059,"endTime":16349,"data":"Lai"},
           {"startTime":16349,"endTime":16609,"data":"một"},
                                                                             -8'))
           {"startTime":16609,"endTime":16849,"data":"người"},
           {"startTime":16849,"endTime":17099,"data":"nữa"},
           {"startTime":17099,"endTime":17399,"data":"ra"},
           {"startTime":17399,"endTime":18259,"data":"đi"}]},
           {"words":
           [{"startTime":19959,"endTime":20239,"data":"Lại"},
           {"startTime":20239,"endTime":20489,"data":"mot"},
           {"startTime":20489,"endTime":20700,"data":"người"},
      else
           {"startTime":20700,"endTime":20950,"data":"nham"},
           {"startTime":20960,"endTime":21260,"data":"đôi"},
            {"startTime":21260,"endTime":21550,"data":"mi"}]},
   return
```



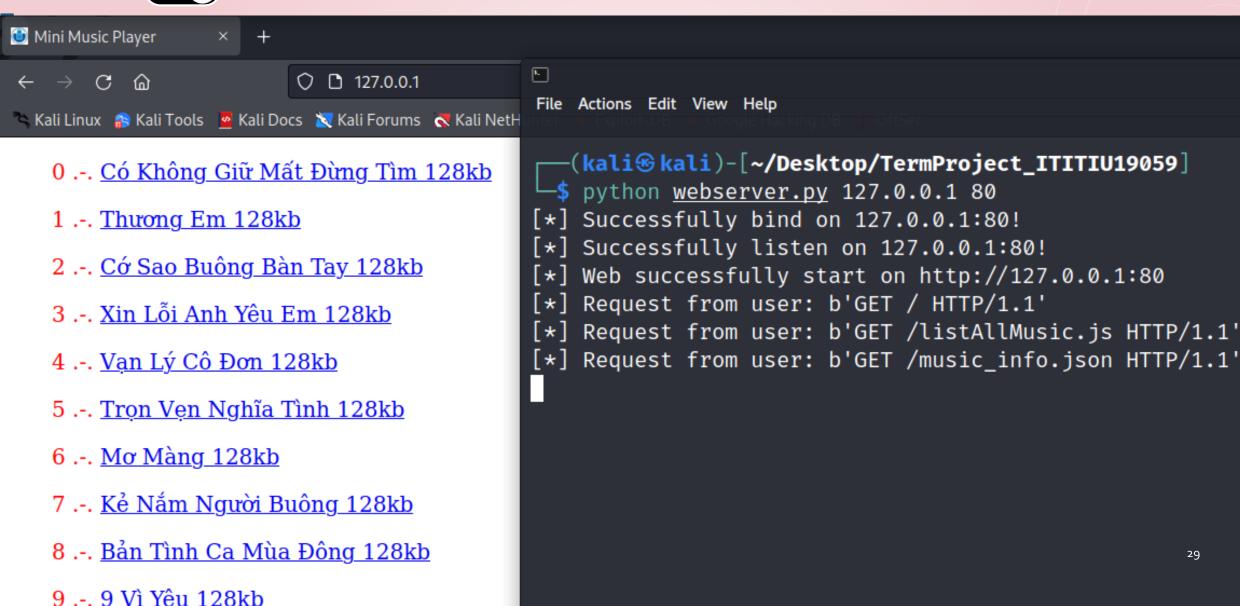
```
"encodeId": "ZZBZA009",
        "title": "Có Không Giữ Mất Đừng Tìm",
4
        "alias": "Co-Khong-Giu-Mat-Dung-Tim-Truc-Nhan",
5
        "isOffical": true.
 6
        "username": "",
        "artistsNames": "Trúc Nhân",
8
9 +
        "artists": [
10 -
            "id": "IWZ99A86",
11
            "name": "Trúc Nhân",
12
            "link": "/Truc-Nhan",
13
14
            "spotlight": false,
            "alias": "Truc-Nhan",
15
            "thumbnail": "https://photo-resize-zmp3.zmdcdn.me/w240_r1x1_jpeg/avatars/a/
16
              .jpg",
            "thumbnailM": "https://photo-resize-zmp3.zmdcdn.me/w360_r1x1_jpeg/avatars/a
17
              .jpg",
18
            "isOA": true,
            "isOABrand": false,
19
            "totalFollow": 83672
20
21
22
23
        "isWorldWide": true.
        "thumbnailM": "https://photo-resize-zmp3.zmdcdn.me/w240_r1x1_jpeg/cover/0/3/9/7
24
        "link": "/bai-hat/Co-Khong-Giu-Mat-Dung-Tim-Truc-Nhan/ZZBZA009.html",
25
```

```
"comment": 63.
88
        "lyric": "Bất ngờ, em nói chia tay\nDù lúc tôi đang yêu em đắm say\nVà thế rồi, em mất tăm hơi\nMã
89
          chơi vơi\nHết hồn, nay em nhắn cho tôi\nRồi nói em đang mong thương nhớ tôi\nThế quái nào, em kh
          tim tôi nào phải công viên\nThật ra, tôi nghe nói xa xăm\nBên ai em sống không vui\nNên em mới c
          thương em quá em ơi\nTôi mong em mãi cô đơn\nVà sống được trọn trăm năm\nTất nhiên là khi chia t
          nhiều ngày trôi nằm ôm gối\nThế nhưng, người có đâu hay\nNgười mất nhiều lại là em chẳng phải tô
          chia tay\nTôi cũng đau tôi cũng buồn ở trái tim\nThế nhưng người hãy nhớ giùm\nCó không giữ thì
          tôi cứ ngỡ sau khi chia tay\nKhông thế quên đi\nBao nhiêu nhớ thương về em\nNgờ đâu, khi chia cá
          tháng thôi\nTôi đã quên sach rồi em ơi\nTất nhiên là khi chia tay\nTôi cũng buồn nhiều ngày trôi
          , người có đâu hay\nNgười mất nhiều lại là em chẳng phải tôi\nTất nhiên là khi chia tay\nTôi cũr
          trái tim\nThế nhưng người hãy nhớ giùm\nCó không giữ thì mất đừng tìm\nTốt hơn là khi chia tay\r
          đừng tiếc nuối\nVì chính những lời nói chia tay\nLà em chọn là em chẳng phải tôi\nTất nhiên là k
          đau tôi cũng buồn ở trái tim\nThế nhưng người hãy nhớ giùm\nCó không giữ thì mất đừng tìm\nThế r
          giùm\nCó không giữ thì mất đừng tìm\nCó không giữ thì mất đừng tìm\nCó không giữ thì mất đừng tì
90 -
        "streams": [
91 -
            "128": "https://mp3-s1-zmp3.zmdcdn.me/74b76cb6c0f729a970e6/4620705450958324966?authen=exp=1652
92
              =/74b76cb6c0f729a970e6/*~hmac=4fdf9ef935667bbbb374c51c5ca28ea1&fs
              =MTY1MjU5NTQ3NDmUsIC0Mnx3ZWJWNnwwfDExMy4xNzYdUng0DMdUngMQ"
93
94 -
          "320": "VIP"
95
96
```

"liked": false.

87

MUSIC PLAYER



```
music.html
    <!DOCTYPE html>
    <html lang="en">
 3
 4
        <head>
             <meta charset="utf-8">
 6
             <title>Mini Music Player</title>
             <script src = "https://ajax.googleapis.com/ajax</pre>
             /libs/jquery/2.1.3/jquery.min.js"></script>
 8
        </head>
 9
10
        <body>
11
             <!/ul>
             <script type="text/javascript" src="</pre>
12
             listAllMusic.js" defer></script>
13
14
        </body>
15
16
    </html>
```

```
listAllMusic.js
   $(window).load( function() {
       $.getJSON( "music info.json", function(obj) {
           $.each(obj, function(key, value) {
               let encodeID = value.encodeId;
               let stream = value.streams;
               for (const item in stream) {
 8
                   let tmp = Object.keys(stream[item]);
                   if (stream[item][tmp] != "VIP") {
10
                       let str = '';
                       str += key + ' .-. <a href="/song info.html?id=' + encodeID + '">';
11
                       str += value.title + ' ' + tmp + 'kb</a>';
12
13
                       str += '';
14
                       $("ul").append(str);
15
                   };
16
               };
17
18
           });
       });
19
20
   });
```

music.html



Bai hat: Diễm Xưa

Ca si: Lưu Ánh Loan



Song cover:



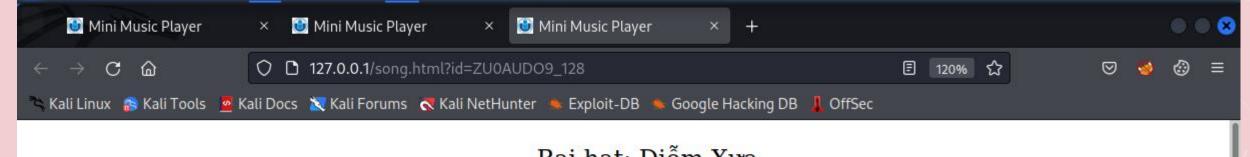
Album: Như Vẫn Còn Đây

The loai: Việt Nam, Nhạc Trịnh,

Lyric: YES!

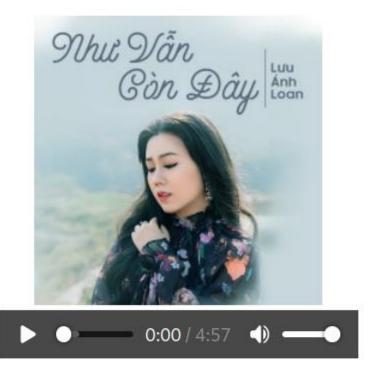


```
song_info.html
 <!DOCTYPE html>
<html lang="en">
        <meta charset="utf-8">
        <title>Mini Music Player</title>
        <script src = "https://ajax.googleapis.com/ajax/libs/jquery/2.1.3/jquery.min.js"></script>
    </head>
    <body>
        <!/ul>
        <script type="text/javascript">
            let mID = "%b";
            $.getJSON( "music info.json", function(obj) {
               $.each(obj, function(key, value) {
                   if (mID == value.encodeId) {
                       if (value.title != undefined) {
                           $("ul").append('Bai hat: ' + value.title + '');
                       if (value.artistsNames != undefined) {
                           $("ul").append('Ca si: ' + value.artistsNames + '
                              ');
                       if (Object(value.artists[0]).thumbnailM != undefined) {
                           $("ul").append('<center><img src="' + Object(value.artists[0]).thumbnailM + '"></center>'
                       else
                           if (Object(value.artists[0]).thumbnail != undefined) {
                               $("ul").append('<center><img src="' + Object(value.artists[0]).thumbnail + '</pre>
                                  "></center>');
```



Bai hat: Diễm Xưa

Ca si: Lưu Ánh Loan



Mưa vẫn mưa bay Trên tầng tháp cổ Dài tay em mấy

```
10
       <body>
       <!/ul>
11
12
         <script type="text/javascript">
13
           let mID = "%b";
14
           let sKB = "%b":
15
           $.getJSON( "music info.json", function(obj) {
              $.each(obj, function(key, value) {
16
17
                  if (mID == value.encodeId) {
18
19
                      if (value.title != undefined) {
20
                          $("ul").append('<center>Bai hat: ' + value.title + '</center>')
21
22
                      if (value.artistsNames != undefined) {
23
                          $("ul").append('<center>Ca si: ' + value.artistsNames + '
                             </center>');
24
                      if (value.thumbnailM != undefined) {
25
26
                          $("ul").append('<center><img src="' + value.thumbnailM + '"></center>');
27
                      else
28
                         if (value.thumbnail != undefined) {
29
                             $("ul").append('<center><img src="' + value.thumbnail + '"></center>');
30
31
32
33
                      $("ul").append('<center><audio width="500px" height="500px" src="DOWNLOAD/' + value.title + ' ' +</pre>
                          sKB + '" type="audio/mp3" controls></audio></center>');
34
35
                      if (value.lyric != undefined) {
                          $("ul").append('<center>' + value.lyric.replace(/\n/g,'<br>') + '
                             </center>');
37
                      else $("ul").append('<center>Lyric: Missing! Do you have
38
```

♦ ▶ song.html



DEMONSTRATE TIME

Thanks for your listening!