

REST APIs

Some Examples

Typical functionality

- CRUD
- Variants of listing
- Specialized functions:
 - create a new virtual machine
 - reboot an existing virtual machine
 - Turn off street lights on a given street
- Formal specifications help others to use

Example: Wikipedia

- Open API
- Search for pages
- History of page
- JSON output



MediaWiki

[Main page](#)[Get MediaWiki](#)[Get extensions](#)[Tech blog](#)[Contribute](#)[Support](#)[User help](#)[FAQ](#)[Technical manual](#)[Support desk](#)[Communication](#)[Development](#)[Bug tracker](#)[Code docs](#)

API

[Discussion](#)

Read

[View source](#)

API:REST API

[Translate this page](#)**Other languages:** [English](#) • [polski](#) • [日本語](#)

This page is part of the [MediaWiki REST API](#) documentation.

The MediaWiki Core REST API lets you interact with MediaWiki by sending [HTTP](#) requests to unique URLs. You can use the API to build apps and scripts that search and display wiki pages, get media files, and explore page history.

Quickstart

```
# Search English Wikipedia for an article about Earth
$ curl "https://en.wikipedia.org/w/rest.php/v1/search/page?
q=earth&limit=1"
```

```
curl "https://en.wikipedia.org/w/rest.php/v1/search/page?q=earth&limit=1"
```

```
curl "https://en.wikipedia.org/w/rest.php/v1/search/page?q=earth&limit=1"
```

```
{
  "pages": [
    {
      "id": 9228,
      "key": "Earth",
      "title": "Earth",
      "excerpt": "<span class=\"searchmatch\">Earth</span> is the third planet from the Sun and the only astronomical object known to harbor and support life. About 29.2% of <span class=\"searchmatch\">Earth</span>'s surface is land consisting",
      "description": "Third planet from the Sun in the Solar System",
      "thumbnail": {
        "mimetype": "image/jpeg",
        "size": null,
        "width": 200,
        "height": 200,
        "duration": null,
        "url": "//upload.wikimedia.org/wikipedia/commons/thumb/9/97/The_Earth_seen_from_Apollo_17.jpg/200px-The_Earth_seen_from_Apollo_17.jpg"
      }
    }
  ]
}
```

https://en.wikipedia.org/w/rest.php/v1/page/Main_Page/history

```
{"revisions":[
{"id":1004593520,"timestamp":"2021-02-03T11:11:30Z","minor":
false,
  "size":3508,"comment":"cut",
  "user":{"id":2927383,"name":"Izno"},"delta":28},
{"id":1004592788,"timestamp":"2021-02-03T11:03:39Z","minor":
false,
"size":3480,"comment":"cut"
. . .
```

Documentation

Schema [\[edit \]](#)

id required integer	Page identifier
key required string	Page title in URL-friendly format
title required string	Page title in reading-friendly format
excerpt required string	<p><i>For search pages endpoint:</i></p> <p>A few lines giving a sample of page content with search terms highlighted with <code></code> tags</p> <p><i>For autocomplete page title endpoint:</i></p> <p>Page title in reading-friendly format</p>
description required string	Short summary of the page topic based on the corresponding entry on Wikidata or <code>null</code> if no entry exists

Detailed documentation

Search pages [\[edit \]](#)

Route `/search/page?q=search terms`

Content type `application/json`

Method `GET`

Returns `pages` object containing array of [search results](#)

Searches wiki page titles and contents for the provided search terms, and returns matching pages.

When using this endpoint on your wiki

 This endpoint uses the search engine configured in the `$wgSearchType` configuration setting and returns results in the namespaces configured by `$wgNamespacesToBeSearchedDefault`.

Examples [\[edit \]](#)

curl

Python

PHP

JavaScript

```
# Search English Wikipedia for up to 20 pages containing information about Jupiter
$ curl https://en.wikipedia.org/w/rest.php/v1/search/page?q=jupiter&limit=20
```

Parameters and Response Codes

Parameters [\[edit \]](#)

<code>q</code> required query	Search terms
<code>limit</code> optional query	Maximum number of search results to return, between 1 and 100. Default: 50

Responses [\[edit \]](#)

200	Success: Results found. Returns a <code>pages</code> object containing an array of search results .
200	Success: No results found. Returns a <code>pages</code> object containing an empty array.
400	Query parameter not set. Add <code>q</code> parameter.
400	Invalid limit requested. Set <code>limit</code> parameter to between 1 and 100.
500	Search error

Example: CoWin public APIs

- For Co-Win app: vaccine registration and information
- Unauthenticated APIs:
 - statewise search, districts etc.
- Authenticated APIs:
 - Book appointment

<https://apisetu.gov.in/public/marketplace/api/cowin#/>

General Information

Servers

https://cdn-api.co-vin.in/api - Production Server ▾

Authorize



User Authentication APIs



Metadata APIs



Appointment Availability APIs



Certificate APIs



Schemas



CentersSchema >

Example: Availability API

GET

/v2/appointment/sessions/public/findByPin

Get vaccination sessions by PIN

API to get planned vaccination sessions on a specific date in a given pin.

Parameters

Try it out

Name	Description
Accept-Language string (header)	The locate code of the preferred language such as en_US. The text data will be returned in the preferred language along with default English text. Example : hi_IN <div>hi_IN</div>
pincode * required string (query)	<div>110001</div>
date * required string (query)	<div>31-03-2021</div>

Testing public API: WARNING - do not overdo this!

```
curl -X GET  
"https://cdn-api.co-vin.in/api/v2/appointment/sessions/public/findByPin" -H  
"accept: application/json" -H "Accept-Language: en_US"
```

Testing public API: WARNING - do not overdo this!

```
curl -X GET  
"https://cdn-api.co-vin.in/api/v2/appointment/sessions/public/findByPin" -H  
"accept: application/json" -H "Accept-Language: en_US"
```

```
{"errorCode":"USRRES0001","error":"Input parameter missing"}
```

Testing public API: WARNING - do not overdo this!

```
curl -X GET  
"https://cdn-api.co-vin.in/api/v2/appointment/sessions/public/findByPin?pincode=600020&date=04-08-2021" -H "accept: application/json" -H "Accept-Language: en_US"
```


Testing public API: WARNING - do not overdo this!

```
curl -X GET
```

```
"https://cdn-api.co-vin.in/api/v2/appointment/sessions/public/findByPin?pincode=600020&date=04-08-2021" -H "accept: application/json" -H "Accept-Language: en_US"
```

```
{
  "sessions": [
    {
      "center_id": 604384,
      "name": "Fortis Malar Hospital",
      "address": "Fortis Malar HospitalChennai TN.",
      "state_name": "Tamil Nadu",
      "district_name": "Chennai",
      "block_name": "Adyar",
      "pincode": 600020,
      "from": "13:30:00", "to": "15:30:00", "lat": 12, "long": 80, "fee_type": "Paid",
      "session_id": "d40bd2c9-0f42-4948-b794-e3c31fa7c3cc",
      "date": "04-08-2021",
      "available_capacity": 85,
      "available_capacity_dose1": 40,
      "available_capacity_dose2": 45,
      "fee": "1250", . . .
    }
  ]
}
```

Testing public API: WARNING - do not overdo this!

```
curl -X GET  
"https://cdn-api.co-vin.in/api/v2/registration/certificate/public/download?beneficiary_reference_id=1234567890123" -H "accept: application/json" -H  
"Accept-Language: en_US" -H "User-Agent: Mozilla/5.0"
```

Testing public API: WARNING - do not overdo this!

```
curl -X GET  
"https://cdn-api.co-vin.in/api/v2/registration/certificate/public/download?beneficiary_reference_id=1234567890123" -H "accept: application/json" -H  
"Accept-Language: en_US" -H "User-Agent: Mozilla/5.0"
```

Unauthenticated access!

Authentication

- Many APIs must be protected:
 - only meant for specific users
 - avoid abuse by overloading servers

How?

Authentication

- Many APIs must be protected:
 - only meant for specific users
 - avoid abuse by overloading servers

How?

Require a “token” that only a valid user can have

- Securely give token only when user logs in - Google OAuth, Facebook etc.
- API Key: one time token that user downloads - can be copied, so potentially less secure unless combined with other methods

Summary

- API examples: CoWin, Google cloud, Twitter, github, ...
- Authentication may be enforced or optional on some parts
- Allows third-party integrations
- Equivalent of a “remote procedure call” - call a function on a remote system