

How to use RDAP

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Introduction

The **Registration Data Access Protocol (RDAP)** is the successor to [WHOIS](#). Like WHOIS, RDAP provides access to information on Internet resources (domain names, IP addresses, etc.).

Unlike WHOIS however, RDAP provides:

- data that can be manipulated for software programs;
- differentiated access to data;
- requests and responses uniformly structured across all RDAP services.

The .paris registry's RDAP server will allow you to query objects linked to the operation of domain names (domain name, name server, registrar) and to obtain information on these objects.

The RDAP server's responses are in (machine readable) JSON format, which is difficult for humans to read and use directly. For the public at large there are online RDAP clients such as <https://about.rdap.org/> or <https://whois.nic.paris> which formats the RDAP response to make it easily readable.

Developing an RDAP client

The RDAP protocol is based on HTTP. Your client will therefore send HTTP requests to the target TLD server in order to recover the desired information in JSON format.

Please consult the RFCs listed hereunder for further details.

HTTP status codes

The HTTP code is in the response from the server, in the header (use the “verbose” option with the “curl” command to recover both header and the HTTP code).

- 200 - Status of the request OK
- 400 - Status of the request INVALID (invalid domain name format)
 - Invalid domain name
 - URL requested: `https://rdap.nic.paris/domain/xn--cafe.paris`
 - Server response:

```
{ "errors": [ { "errorCode": "INVALID_DOMAIN_NAME", "fieldName": "getDomain.domainName", "rejectedValue": "xn--cafe.paris", "message": "The provided domain name is invalid" } ], "errorsDate": "2025-01-16T16:48:38.206031Z" }
```
- 404 - Status of the request INVALID (URL malformed, object not found, etc.)
 - URL malformed
 - URL requested: `https://rdap.nic.paris/dom/nic.paris`
 - Server response:

```
{ "timestamp": "2025-01-16T16:45:22.040+00:00", "status": 404, "error": "Not Found", "message": "", "path": "/dom/nic.paris" }
```
 - Domain name not registered
 - URL requested: `https://rdap.nic.paris/domain/jenexistepas.paris`
 - Response:

```
{ "errors": [ { "errorCode": "NOT_FOUND_DOMAIN_NAME_WITH_NAME", "message": "No domain corresponding to jenexistepas.paris has been found" } ], "errorsDate": "2025-01-16T16:46:34.230912Z" }
```

Related RFCs

- [RFC 7480: HTTP Usage in the Registration Data Access Protocol \(RDAP\)](#)
- [RFC 7481: Security Services for the Registration Data Access Protocol \(RDAP\)](#)
- [RFC 9083: JSON Responses for the Registration Data Access Protocol \(RDAP\)](#)
- [RFC 9224: Finding the Authoritative Registration Data \(RDAP\) Service](#)
- [RFC 8056: Registration Data Access Protocol \(RDAP\) Object Tagging](#)
- [RFC 8977: Registration Data Access Protocol \(RDAP\) Query Parameters for Result Sorting and Paging](#)
- [RFC 8982: Registration Data Access Protocol \(RDAP\) Partial Response](#)
- [RFC 9082: Registration Data Access Protocol \(RDAP\) Query Format](#)
- [RFC 9536: Registration Data Access Protocol \(RDAP\) Reverse Search](#)
- [RFC 9537: Redacted Fields in the Registration Data Access Protocol \(RDAP\) Response](#)

Complementary ICANN documentation

RDAP RESPONSE PROFILE 21-02-2024 : <https://www.icann.org/en/system/files/files/rdap-response-profile-21feb24-en.pdf>

RDAP TECHNICAL IMPLEMENTATION GUIDE 21-02-2024
: <https://www.icann.org/en/system/files/files/rdap-technical-implementation-guide-21feb24-en.pdf>

Available URLs

- Domain name: <https://rdap.nic.paris/domain/domain-name-sought.paris>
- Name server: <https://rdap.nic.paris/nameserver/name-of-the-name-server-sought.paris>
 - Search by IP address: [https://rdap.nic.paris/nameservers?ip=IP address-sought](https://rdap.nic.paris/nameservers?ip=IP%20address-sought)
- Registrar:
 - Search by GURID (IANA ID): https://rdap.nic.paris/entity/gurid_number
 - Search by name: <https://rdap.nic.paris/entity/name-of-registrar> or <https://rdap.nic.paris/entities?fn=name-of-registrar>

Management of internationalised domain names (IDNs)

The RDAP server accepts requests for domain names and servers in the A-LABEL or U-LABEL formats.

Reminder:

A-LABEL = domain name encrypted in ASCII form (starting with xn--)

U-LABEL = domain name in Unicode - readable by a human

Using RDAP via your Internet browser

Domain name requests

Format of the request made via your browser: [https://rdap.nic.paris/domain/domain name.paris](https://rdap.nic.paris/domain/domain.name.paris)

Example

Requested URL: <https://rdap.nic.paris/domain/cafe.paris>

Response from the RDAP server:

- rdapConformance
- objectClassName

- handle
- ldhName
- unicodeName
- events
 - eventAction : registration / expiration / last changed / last update of RDAP database
- status
- entities
 - objectClassName
 - handle
 - status
 - port43
 - events
 - links
 - vcardArray
 - roles : sponsor / registrar / (with sub-entities representing contacts admin, abuse and technical) / registrant / admin / tech / billing
 - publicIds
- secureDNS
 - delegationSigned
 - dsData
- nameservers
 - objectClassName
 - handle
 - status
 - links
 - ldhName
 - ipAddresses
- links
- notices

Registrar requests

Format of the request made via your browser:

- Search by registrar: <https://rdap.nic.paris/entity/nom>
- Search by GURID: <https://rdap.nic.paris/entity/gurid>
- Search by registrar (other option): <https://rdap.nic.paris/entities?fn=nom>

Example

Requested URL: <https://rdap.nic.tld/entity/9998>

Response from the RDAP server:

- rdapConformance
- objectClassName
- handle
- events

- eventAction : registration / last changed / last update of RDAP database
- status
- vcardArray
- roles : registrar
- publicIds
- entities
 - links
 - vcardArray
 - roles : admin / tech / abuse
- port43
- links
- notices

Name server requests

Format of the request made via your browser:

- Search by name server: <https://rdap.nic.paris/nameserver/nom-du-serveur-de-noms.extension>
- Search by name server IP address: <https://rdap.nic.paris/nameservers?ip=adresse-ip-recherchée>

Example

Requested URL: <https://rdap.nic.tld/nameserver/ns1.nic.tld>

Response from the RDAP server:

- rdapConformance
- objectClassName
- handle
- status
- links
- ldhName
- unicodeName
- ipAddresses
- entities
 - objectClassName
 - handle
 - status
 - port43
 - events
 - links
 - vcardArray
 - roles : registrar / sponsor
 - publicIds
- notices