

What is RDAP?

RDAP (Registry Data Access Protocol) is a directory service for Internet number resources designed by the Internet Engineering Task Force (IETF) as a successor to the Whois protocol. It is an alternative, Representational State Transfer (REST) web service that provides access to information about domain names, Autonomous System Numbers (ASNs), IP addresses, and related records. It serves as a global protocol by querying resource registration data from Regional Internet Registries (RIRs) and Domain Name Registries (DNRs).

Advantages over Whois

RDAP

- ✓ HTTP-based REST-style protocol with standardized responses specified in JSON
- ✓ Response data objects are easily translated into languages other than English
- ✓ Responses offer direct referrals to other RIRs and DNRs

Whois

- ✗ Text-based protocol, utilizing a specialized protocol and port
- ✗ Response data objects may not be translated into languages other than English
- ✗ Defines no queries or responses, and interaction with DNRs and RIRs can vary significantly

Other advantages of RDAP are: machine-readable representation of registration data, differentiated access, structured request and response semantics, internationalization extensibility, and query bootstrapping

How RDAP Works

RDAP uses RESTful web technologies to make access to registration data as fast and robust as possible. These are the same set of technologies used by modern Internet services such as Twitter, Facebook, Google, Amazon, and more.

ARIN's RDAP Bootstrap Server

Query bootstrapping is the process of determining to which RIR (or DNR) a query should be sent. This process can be time-consuming, so ARIN offers a bootstrapping service to make RDAP queries as fast as possible. This bootstrap service preloads and indexes all the necessary information. All you need to do is send an RDAP query to the bootstrapping service, and ARIN will redirect the query to the appropriate place.

Should you wish to operate your own bootstrap server, ARIN's is open source and available via GitHub.

How Do I Use ARIN's RDAP Service?

Users can submit RDAP queries for registration information by using any of these methods:

- Entering information to search for into an RDAP web interface: ARIN provides this function on our website, as do some other RIRs
- Using a standalone RDAP client: ARIN provides its own client, NicInfo, and some other clients are available from third parties
- Entering RDAP query URLs into command-line tools like cURL or compiling them into scripts written in languages such as Ruby or perl

NicInfo Command Example

Syntax: `nicinfo <object> --base http://rdap.arin.net/bootstrap/`

Sample Command: `nicinfo AS64496 --base http://rdap.arin.net/bootstrap/`

Query URL Example

Syntax: `<rdap-url><object>/<search-item>`

Sample Query: `https://rdap.arin.net/bootstrap/ip/2001:500:11::`

Find Out More!

For more information and help using RDAP, visit: <https://www.arin.net/resources/registry/whois/rdap/>

The following IETF Internet Requests for Comments (RFCs) offer full details and specifications about RDAP:

RFC 7480 - HTTP Usage in the Registration Data Access Protocol (RDAP)

RFC 7481 - Security Services for the Registration Data Access Protocol (RDAP)

RFC 7482 - Registration Data Access Protocol (RDAP) Query Format

RFC 7483 - JSON Responses for the Registration Data Access Protocol (RDAP)

RFC 7484 - Finding the Authoritative Registration Data (RDAP) Service

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