operated by **Restena**

Configuring your name servers on my.lu/online

USER MANUAL

Version: 3.0 **Date**: 03/11/2026

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1. Introduction

The use of a domain name - whether for websites or email addresses - requires name servers to be activated and configured. On the my.lu/online registration platform, users can configure each of their registered domain names in one of two ways:

- using their own servers or those provided by their DNS provider;
- using the DNS servers provided by my.lu.

In its role as a .lu registrar, the Restena Foundation provides, via the my.lu online registration platform, DNS servers that allow you to use your .lu domain name reliably and with total peace of mind thanks to authoritative servers that benefit from DNSSEC (Domain Name System Security Extensions) technology in addition to a high level of resilience owing to the use of anycast servers (distributed across Europe with the aim of being located as close as possible to visitors and their DNS requests). This service is intended for companies and individuals using the my.lu registration platform to register and manage their .lu domain names.

→ For more information on the 'Registration of .lu' service, visit
https://www.restena.lu/en/service/registration-lu

→ For more information on the 'DNS Servers' service, visit
https://www.restena.lu/en/service/dns-servers

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2. DNS and the platform

2.1. General information about DNS

2.1.1. The purpose of DNS servers

DNS allows for a domain name to be linked to servers acting as a domain name database. The proper configuration of these DNS servers ensures accessibility to sites and/or email addresses associated with a particular domain name by translating the domain name (intelligible to humans) into an IP address (an encoded address identifying, in a unique way, a particular item on the network) or some other data.

By responding to requests related to the addresses registered within the domain name system, these computers are vital in terms of ensuring the seamless operation of the Internet. It is generally advisable to configure several DNS servers for the same domain name to guarantee continuity of services and to ensure the proper functioning of one's domain name in the event of a technical issue - such as a fire at the data centre, cable break, etc. - that may affect one of the servers.

2.1.2. Structure of domain names and DNS servers

A domain name is typically displayed in the format: 'nameofmycompany.lu'. This name can provide access to certain services such as websites (www.nameofmycompany.lu) and email addresses (lastname.firstname@nameofmycompany.lu). For this purpose, the name must be activated by introducing DNS servers and configuring related DNS records.

The server name itself displays in the form 'ns1.serverownername.lu'. Several different domains and sub-domains can point to this server. Except for certain exceptions, sub-domains are recognisable by the '.' which punctuate DNS server names.

2.1.3. The importance of 'glue records'

A 'glue record' is the IP address of the name server announced by the parent when the domain name uses name servers hosted under this same domain. In this case, the DNS server is considered as a subdomain of the domain name as its name ends with the domain name covered.

This is where a 'glue record' becomes imperative. Without it, the DNS resolver – which allows the elements linked to a certain domain name to be decrypted and displayed - is unable to access the sub-domain.

Example: I want to activate the domain name 'mydomain.lu', using DNS servers called 'ns1.mydomain.lu' and 'ns2.mydomain.lu'. I must encode the IP addresses specific to each server.

2.1.4. The added value of DNSSEC

DNSSEC (Domain Name System Security Extensions) integrate each domain into a chain of trust within the naming convention tree structure on the Internet. It is vital to have these to ensure the reliability of the information broadcast by the DNS and to reinforce the safety and trust of all Internet users. With DNSSEC, all records used within the .lu zone, as well as those signed with DNSSEC cryptographic keys, are authenticated. A public key fingerprint associated with the domain name is used to confirm the validity of DNS responses, right up to the .lu root.

With DNSSEC, records (in other words, everything that is used within a particular zone) is authenticated by signing and creating a chain of trust that extends to the root of the DNS. Thus, a first key signs the registrations, while a second, slightly stronger key signs the first key.

Important: If you want to replace your DNS servers running with DNSSEC with new servers also using this technology, you run the risk of experiencing an interruption to your service. To ensure the continuity of DNSSEC protection while changing DNS servers, simple precautions should be taken: submit the server

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information concerning names that are active at the time of creating or changing one's domain name and ensure the co-existence of the old and the new DS records, for a period of two days.

Note: Irrespective of the DNS provider selected, DNS records are configured on the servers introduced on my.lu.

2.2. DNS management on the platform

Throughout the lifespan of your domain name, and at no additional cost, DNS configuration can be activated or deactivated, either using your own DNS servers (or those of your DNS provider) or the DNS servers provided by the Restena Foundation under my.lu.

2.2.1. Timings for DNS changes propagation

When you make a change to DNS servers, certain delays - that cannot be reduced - apply. Three types exist:

→ Delays at the .lu registry

The root zone of the .lu is updated 24 hours a day, 7 days a week – at each full hour.

→ Delay when going online

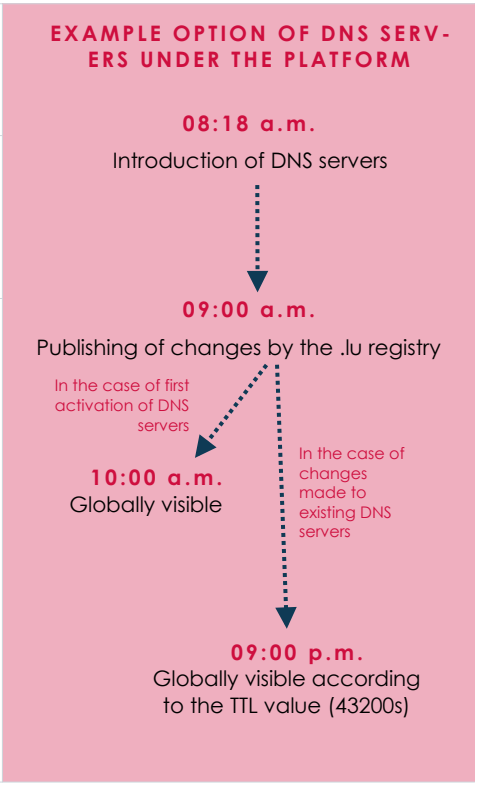
When activating DNS servers for the first time, the effect becomes visible within one hour, after the changes have been published by the .lu registry.

→ Delays for changes to take effect

When making changes to your name servers, new information will propagate depending on the TTL (Time to Live) associated with your domain name; in other words, the timeframe during which data related to your domain name on the .lu zone is stored in memory.

The TTL varies from one DNS provider to another. It is explicitly defined according to a set default value - often 1hr, 6hrs, 12hrs, 24hrs, or even 48hrs - and which may, depending on the specific case, be changed.

Note: The default TTL on the DNS servers provided under my.lu is 43200s, which is 43,200 seconds, or 12hrs. This TTL cannot be changed.



2.2.2. Number of servers required

In order to activate your domain name, you can communicate between two abnd six different servers on my.lu.

At least two servers are required for activating your domain name. The encoding order of your servers does not affect their use in any way. There is no set order for DNS servers. Your servers are used to handle DNS requests in an entirely random manner.

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2.2.3.Types of DNS records supported

Technical reference documents published by the Internet Engineering Task Force (IETF).

Type of record	Purpose	Reference document
A	Associate a domain name with an IPv4 address so that the server is able to communicate.	RFC 1035
AAAA	Associate a domain name with an IPv6 address so that the server is able to communicate.	RFC 3596
CAA *(Certification Authority Restriction)*	Specify the certification authority(ies) (CA) authorised to issue certificates for a particular domain name.	RFC 6844
CNAME	Redirect one request towards another, in particular in order to bring in traffic from several different domains to a single location. **Notes:** • A CNAME can only be applied to names registered under a particular domain, • Where a CNAME is defined for a particular name, no other DNS record type can be defined for the same name.	RFC 1035
DNSKEY (*DNS Public Key*)	Sign and authenticate the DNS's Resource Record Sets (RRsets) using the public keys used in the DNSSEC authentication process.	RFC 4034 RFC 3755
DS (*Delegation Signer*)	Check the DNSSEC key for a particular sub-domain.	RFC 4034 RFC 3658
MX (*mail exchange*)	Define the incoming mail servers for email.	RFC 1035
NAPTR (*Naming Authority Pointer*)	Rewrite a domain name based on common expressions, which could then be used as a URL, search for additional domain names, etc.	RFC 2915 RFC 2168 RFC 3403
NS (*authoritative name server*)	Specify the authorised host for a specific zone and domain (name servers, delegation).	RFC 1035
SOA *(start of authority)*	Mark the start of authority for a particular DNS zone. **Note**: The DNS zone for a particular domain name is automatically prepopulated with a SOA that cannot be changed by the user.	RFC 1035
SPF (*Sender Policy Framework*)	Specify the hosts authorised to use the names and the Administrative Management Domain (ADMD) mail recipients.	RFC 7208
SRV (Server Selection)	Associate several servers to a single domain, move services from one host to another without too much difficulty and nominate certain hosts as primary servers for a particular service and others as backup servers.	RFC 2782
SSHFP (*Secure Shell Key Fingerprints*)	Provide secure, remote login and other secure network services over a non-secure network owing not only to server authentication of a client, but also to user authentication to the server. The fingerprint of the server's public key in the DNS by using DNSSEC is particularly sought.	RFC 4255
TLSA (*Transport Layer Security (TLS) Protocol*)	Specify the keys used on the TLS servers, in other words, encrypted communications by means of the TLS (Transport Layer Security) protocol.	RFC 6698
TXT	This arbitrary human-read text field is used to: • integrate the information requested by instances to check that you are in fact the holder of the domain (Google, Adobe, etc.); • limit the servers able to send emails as part of its use via the SPF protocol.	RFC 1035

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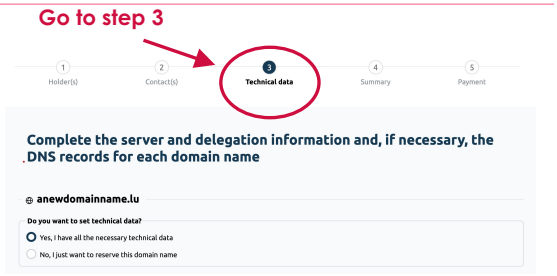
3. Configuration of your own DNS servers

3.1. Step 1: Access DNS settings

→ You are registering a new domain name

When you register an 'available to register' domain name, your DNS servers are configured at step 3 'Technical data' during the purchase process.

To do this, to the question 'Do you want to set technical data?', answer 'Yes, I have all the necessary technical data'.

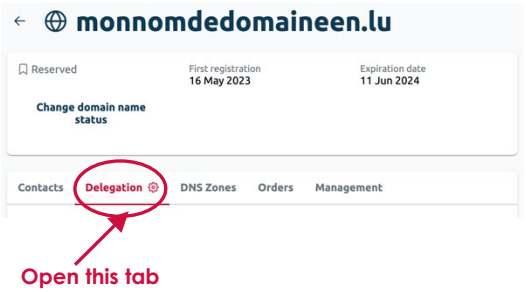


→ You are editing an already existing domain name

If you already own a domain name or are the new holder of the domain following its transfer or handover from another domain holder and/or another registrar, it is configured in the domain name section linked to your account.

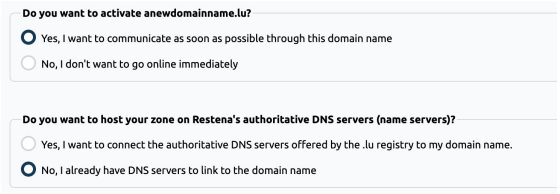
To do this, once logged in,

1. Go to 'Domain names' section.
2. Click on the domain name you want to modify and open the tab 'Delegation'.



3.2. Step 2: Activate DNS configuration

- Answer 'Yes, I want to communicate as soon as possible through this domain name' to the question 'Do you want to activate (domain name)?'
- Answer 'No, I already have DNS servers to link to the domain name' to the question 'Do you want to host your zone on Restena's authoritative DNS servers (name servers)?'



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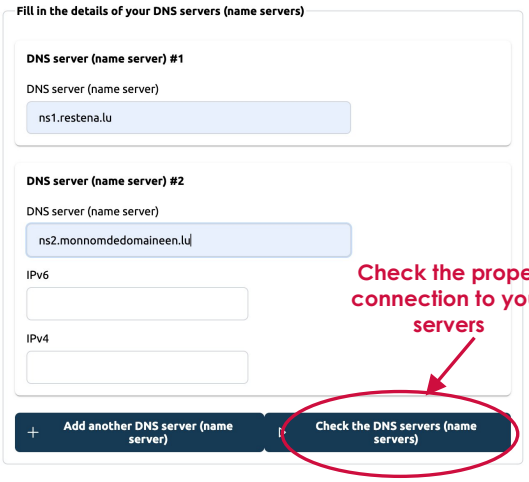
3.3. Step 3: Configure your DNS servers

a. In the 'DNS server (name server) #1' to 'DNS server (name server) #2' fields, at least, enter items to enable identification into the following fields for your servers:

- name (example: ns1.restena.lu)
- address, in IPv4 (example: 158.64.1.23) or IPv6 (example: 2001:a18:1::23) format only if your server name ends with the domain name you are in the process of configuring.

Note: All of this information is available from your DNS provider.

Then click on 'Check the DNS servers (name servers)' so that the system can check for proper connection to the encoded servers.



b. **→ The DNS server test has been passed**

Connection with your server(s) has been established. You can pass directly to the next step.

→ The DNS server test has failed

Connection to your server(s) has not been successfully established, as one or more items of information are incorrect. A message listing all of the errors encountered displays. Work through the various errors point by point and make corrections directly in the fields dedicated to the server (see Point a.).
Important: If you encounter the error 'REFUSED' and/or the error 'SERVFAIL', your DNS provider is the only one able to make the necessary correction. In this case, please contact your provider that will treat the issue directly with the .lu Service team.
Once this has been done, click again on 'Check the DNS servers (name servers)'. Repeat the process as often as necessary, until contact with the servers has successfully been established and the test server succeeds.

Note: You can decide to continue with the registration or change to your domain name despite failure of the DNS test server, however:

- if you register a new domain name: it will automatically be reallocated 'Reserved' status;
- if you change an already existing domain name: the information you enter will be captured, but any changes will be rejected by the registry when these changes are processed.

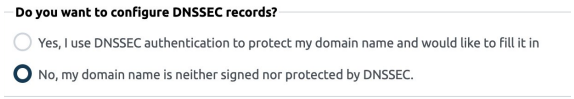
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3.4. Step 4 (optional) : Enter your DS records

The 'DS records' fields should only contain data if you are using DNSSEC authentication to protect your domain name (see section 2.1.4. 'The added value of DNSSEC'). Also find the process to follow for your particular case below.

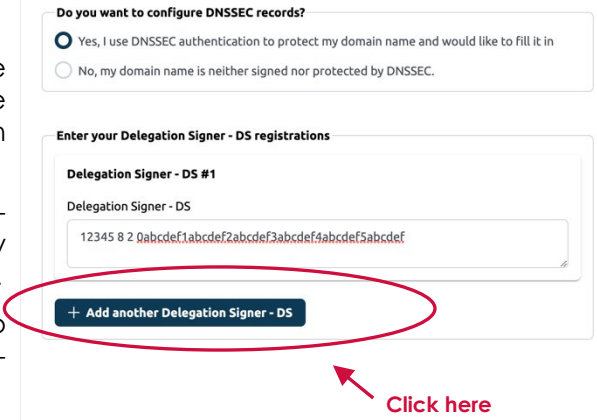
→ You are not using DNSSEC and do not want to sign your domain name with DNSSEC

To the question 'Do you want to configure DNSSEC records?', answer 'No, my domain name is neither signed nor protected by DNSSEC'.



→ You want to change the DNSSEC signature of your domain name

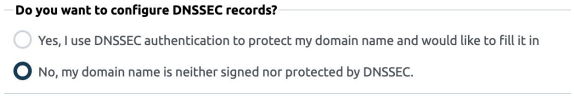
- To the question 'Do you want to configure DNSSEC records?', keep the answer 'Yes, I use DNSSEC authentication to protect my domain name and would like to fill it in.'
- Add your new DS records, in a new field 'Delegation Signer – DS' below your existing record(s) by clicking on 'Add another Delegation Signer – DS'.
- Keep your existing DS record(s) for at least two days to ensure the continuity of DNSSEC protection.
- 48 hours after recording your changes, log in to your account again and delete the record that has become 'obsolete'.



→ Your domain name is DNSSEC signed and you no longer want to use DNSSEC

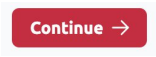
- If you want to keep the DS records in memory, answer 'No, my domain name is neither signed nor protected by DNSSEC' to the question 'Do you want to configure DNSSEC records?
- If you want to delete the DS records, delete the corresponding data before answering 'No, my domain name is neither signed nor protected by DNSSEC' to the question 'Do you want to configure DNSSEC records?'

Note: By deleting your DS records, you forego the benefits offered by DNSSEC protection (see section 2.1.4. 'The added value of DNSSEC').



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3.5. Step 5: Confirm you DNS records

→ You are registering a new domain name Click on the 'Continue' button at the very bottom so that the platform can capture your encoded data.	
→ You are editing an already existing domain name Click on the 'Save' button so that the platform can apply all your modifications.	

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4. Configure Restena's DNS servers

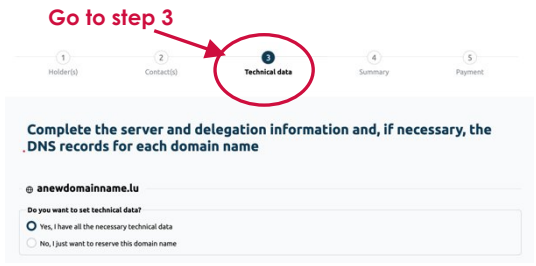
4.1. Configuring your hosting

4.1.1. Step 1 : Access DNS settings

→ You are registering a new domain name

When you register an 'available to register' domain name, your DNS servers are configured at step 3 'Technical data' during the purchase process.

To do this, to the question 'Do you want to set technical data?', answer 'Yes, I have all the necessary technical data'.

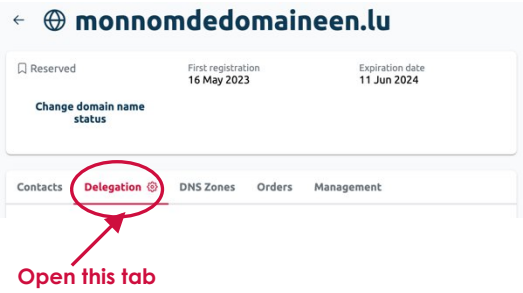


→ You are editing an already existing domain name

If you already own a domain name or are the new holder of the domain following its transfer or handover from another domain holder and/or another registrar, it is configured in the domain name section linked to your account.

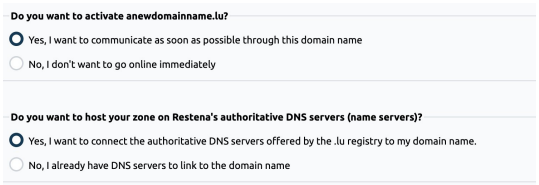
To do this, in your account,

1. Go to 'Domain names' section.
2. Click on the domain name you want to modify and open the tab 'Delegation'.



4.1.2. Step 2: Activate the DNS configuration

- Answer 'Yes, I want to communicate as soon as possible through this domain name' to the question 'Do you want to activate (domain name)?'
- Answer 'Yes, I want to connect the authoritative DNS servers offered by the .lu registry to my domain name.' to the question 'Do you want to host your zone on Restena's authoritative DNS servers (name servers)?'

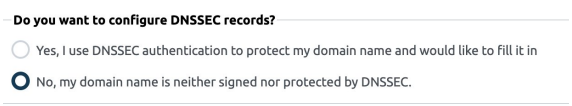


4.1.3. Step 3 (optional): Enter your DS records

The 'DS records' fields should only contain data if you are using DNSSEC authentication to protect your domain name (see section 2.1.4. 'The added value of DNSSEC'). By using the DNS servers provided under the platform, a DNSSEC key is automatically generated and new related DS records are automatically entered by the my.lu interface after the successful confirmation of your order or your changes. Below you will find the process to follow, depending on your specific situation.

→ Your domain name is not DNSSEC signed

In this case, to the question 'Do you want to configure DNSSEC records?', answer 'No, my domain name is neither signed nor protected by DNSSEC.'

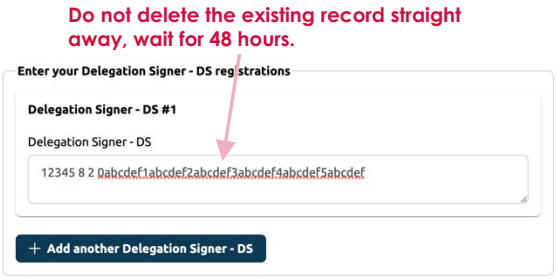


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→ Your domain name is already DNSSEC

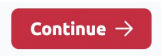
- Keep your existing DS record(s) for at least two days in order to ensure the continuity of DNSSEC protection;
- 48 hours after recording your changes, log in to your account again and delete the record that has become 'obsolete' and answer 'No, my domain name is neither signed nor protected by DNSSEC' to the question 'Do you want to configure DNSSEC records?'



4.1.4.Step 4 : Confirmer la configuration DNS et DNSSEC

→ You are registering a new domain name

Click on the 'Continue' button at the very bottom so that the platform can capture your encoded data.



→ You are editing an already existing domain name

Click on the 'Save' button so that the platform can apply all your modifications



4.1.5.Step 5 : Edit your DNS records

→ You are registering a new domain name

DNS records cannot be edited at the time of registering a domain name, as the information relevant to the DNS servers as well as a DNSSEC key are automatically generated and integrated into the platform only while processing the order.

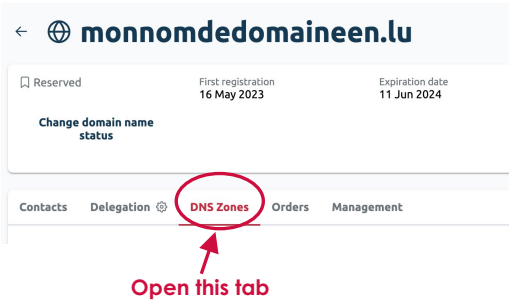
You can edit your DNS records option once you have paid for your order.

DNS records can only be edited once your order has been completed, and, by definition, only when making a change to an already existing domain name.

→ You are editing an already existing domain name

To configure your initial DNS records, click on and open the 'DNS Zones' tab.

Refer to section '4.2.1. Steps to follow to edit DNS records' in this manual for more information on the steps to follow to edit DNS records.



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4.1.6.Step 6 : Confirm your DNS records

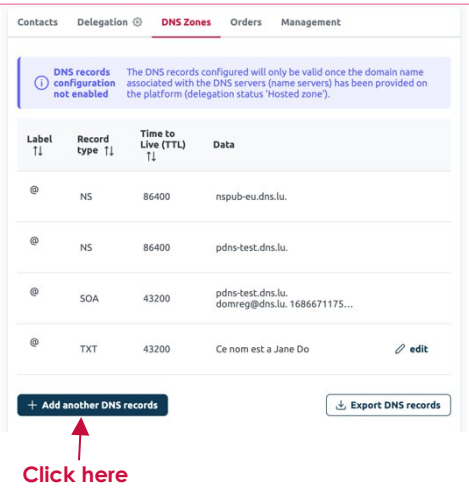
→ You are registering a new domain name Editing DNS records is only accessible when a change is made to an existing domain name associated with your account.	
→ You are editing an already existing domain name Click on the 'Publish' button so that the platform can apply all your modifications.	Publish

4.2. The structure of editing DNS records

When a domain name is marked as 'Hosted zone', the DNS records supported by the platform (see section '2.2.3. Types of DNS records supported') must be managed (added, changed or deleted) directly in the tab 'DNS Zones' of a domain name.

DNS records can, however, be prepared ahead, i.e. added, changed or deleted in the my.lu platform before the name is marked as 'Hosted zone'. In this case, the relevant records are recorded on the platform but will only take effect once the domain name is marked 'Hosted zone'.

4.2.1.Steps to follow to edit DNS records

a.	In the 'DNS Zones' tab, click on 'Add another DNS records', then select from the displayed list the type of DNS record you want to create (see section 4.2.2. 'Table of required information' for more detailed information) Once the selection has been made, click on 'Continue'. **Note**: You can only edit/create one record at a time.	
b.	Depending on the type of record selected, enter the requested data. Once entered in the required format, click on 'Create.	**Details of the various record types can be found in section '4.2.2. Table of required information'**

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c. Your record has successfully been processed, your change(s) will appear in your DNS record list, marked in the following background colour:

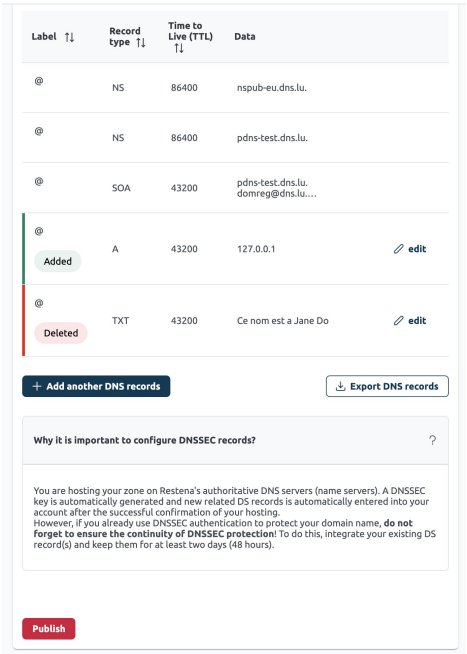
- green for an added record;
- orange for an edited record;
- red for a deleted record.

If you have several DNS records to edit/create/delete, reiterate points a. and b. for each of them.

Then, once you have finished, click on 'Publish'. The background colour disappears. All of your changes are recorded, but at this stage they have not yet been applied. They will only be published and therefore visible once all of your changes have been confirmed (see section '4.1.6. Step 6: Confirm your DNS records').

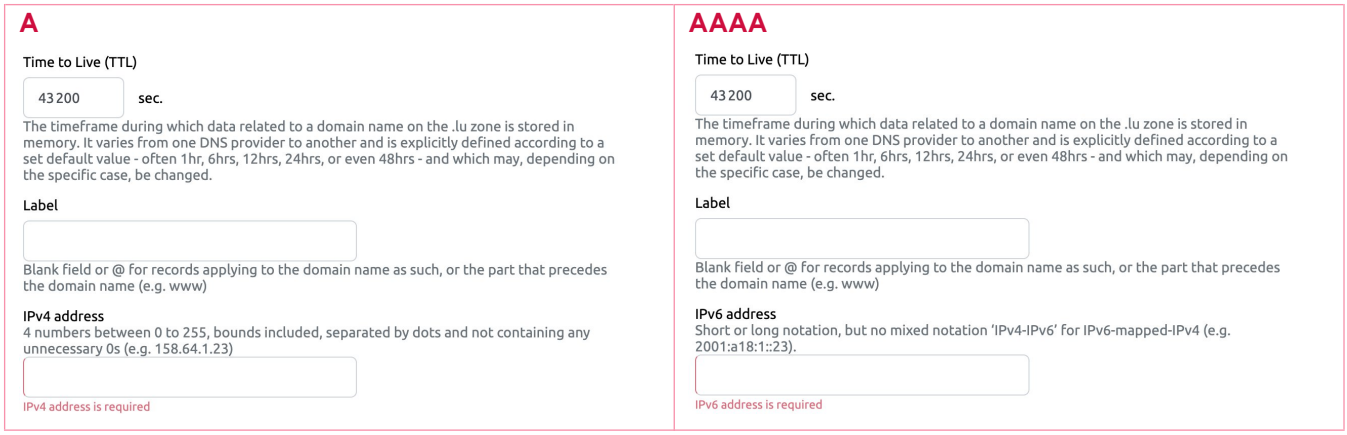
Important: The visibility of the introduced records – which only has an effect if the domain name is marked 'Hosted zone' - will apply within delays defined by the TTLs (Time to Live) associated with your domain name (see section '2.2.1. Timings for DNS changes propagation'). Please note that if the records entered modify the value of one or more TTLs, the old value applies to the current

Note: you can change your records at any time by clicking on 'Edit', next to your record.



4.2.2.Table of required information

For more technical details on the following records, refer to the descriptions and reference documents (RFCs) listed in section '2.2.3. Types of DNS records supported'.



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CAA *(Certification Authority Restriction)*

Time to Live (TTL)

43200 sec.

The timeframe during which data related to a domain name on the .lu zone is stored in memory. It varies from one DNS provider to another and is explicitly defined according to a set default value - often 1hr, 6hrs, 12hrs, 24hrs, or even 48hrs - and which may, depending on the specific case, be changed.

Label

Blank field or @ for records applying to the domain name as such, or the part that precedes the domain name (e.g. www)

Flags

Select the appropriate format from the list displayed

Default

Tag

Select the appropriate format from the list displayed

Non-wildcard issuer

mailto / http / https

CAA value provided by your certification authority

mailto / http / https is required

CNAME

Time to Live (TTL)

43200 sec.

The timeframe during which data related to a domain name on the .lu zone is stored in memory. It varies from one DNS provider to another and is explicitly defined according to a set default value - often 1hr, 6hrs, 12hrs, 24hrs, or even 48hrs - and which may, depending on the specific case, be changed.

Label

Blank field or @ for records applying to the domain name as such, or the part that precedes the domain name (e.g. www)

Label is required

Target

FQDN value

Target is required

DNSKEY (DNS Public Key)

Time to Live (TTL)

43200 sec.

The timeframe during which data related to a domain name on the .lu zone is stored in memory. It varies from one DNS provider to another and is explicitly defined according to a set default value - often 1hr, 6hrs, 12hrs, 24hrs, or even 48hrs - and which may, depending on the specific case, be changed.

Label

Blank field or @ for records applying to the domain name as such, or the part that precedes the domain name (e.g. www)

Flags

Select the appropriate format from the list displayed

Flags is required

Protocol

Select the appropriate format from the list displayed

3

Algorithm

Select the appropriate value from the list displayed

RSASHA256

Value

Base 64 value

Value is required

DS (Delegation Signer)

Time to Live (TTL)

43200 sec.

The timeframe during which data related to a domain name on the .lu zone is stored in memory. It varies from one DNS provider to another and is explicitly defined according to a set default value - often 1hr, 6hrs, 12hrs, 24hrs, or even 48hrs - and which may, depending on the specific case, be changed.

Label

Blank field or @ for records applying to the domain name as such, or the part that precedes the domain name (e.g. www)

Label is required

Keytag

Numerical value between 0 and 65535

1

Algorithm

Select the appropriate value from the list displayed

RSASHA256

Digest type

Select the appropriate format from the list displayed

Digest type is required

Digest

Value as a base-16, noted in the form of a series of pairs comprised of numbers from 0 to 9 or letters from a to f, in uppercase or lowercase

Digest is required

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MX (*mail exchange*)

Time to Live (TTL)

43200 sec.

The timeframe during which data related to a domain name on the .lu zone is stored in memory. It varies from one DNS provider to another and is explicitly defined according to a set default value - often 1hr, 6hrs, 12hrs, 24hrs, or even 48hrs - and which may, depending on the specific case, be changed.

Label

Blank field or @ for records applying to the domain name as such, or the part that precedes the domain name (e.g. www)

Priority
Numerical value between 0 and 65535

0

Target
FQDN value

Target is required

NAPTR (*Naming Authority Pointer*)

Time to Live (TTL)

43200 sec.

The timeframe during which data related to a domain name on the .lu zone is stored in memory. It varies from one DNS provider to another and is explicitly defined according to a set default value - often 1hr, 6hrs, 12hrs, 24hrs, or even 48hrs - and which may, depending on the specific case, be changed.

Label

Blank field or @ for records applying to the domain name as such, or the part that precedes the domain name (e.g. www)

Order
Numerical value between 0 and 65535

0

Preference
Numerical value between 0 and 65535

0

Flags
Incorporate one or more of the following data items: 's', 'a', 'u','p'
[SsAaUuPp]*

Flags is required

Service
According to NAPTR record RFC reference documents

Service is required

Regular expression
You can test your regular expression on regex101.com (external service)

Regular expression is required

Replacement value
FQDN value

Replacement value is required

NS (*authoritative name server*)

Time to Live (TTL)

43200 sec.

The timeframe during which data related to a domain name on the .lu zone is stored in memory. It varies from one DNS provider to another and is explicitly defined according to a set default value - often 1hr, 6hrs, 12hrs, 24hrs, or even 48hrs - and which may, depending on the specific case, be changed.

Label

Blank field or @ for records applying to the domain name as such, or the part that precedes the domain name (e.g. www)

Label is required

Target
FQDN value

Target is required

SPF (*Sender Policy Framework*)

Time to Live (TTL)

43200 sec.

The timeframe during which data related to a domain name on the .lu zone is stored in memory. It varies from one DNS provider to another and is explicitly defined according to a set default value - often 1hr, 6hrs, 12hrs, 24hrs, or even 48hrs - and which may, depending on the specific case, be changed.

Label

Blank field or @ for records applying to the domain name as such, or the part that precedes the domain name (e.g. www)

SPF Constraints
According to SPF standard, defined in the technical reference document RFC 7208

SPF Constraints is required

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SRV (Server Selection)

Time to Live (TTL)

43200 sec.

The timeframe during which data related to a domain name on the .lu zone is stored in memory. It varies from one DNS provider to another and is explicitly defined according to a set default value - often 1hr, 6hrs, 12hrs, 24hrs, or even 48hrs - and which may, depending on the specific case, be changed.

Label

Blank field or @ for records applying to the domain name as such, or the part that precedes the domain name (e.g. www)

Priority
Numerical value between 0 and 65535

0

Weight
Numerical value between 0 and 65535

0

Port
Numerical value between 0 and 65535

0

Target
FQDN value

Target is required

SSHFP (*Secure Shell Key Fingerprints*)

Time to Live (TTL)

43200 sec.

The timeframe during which data related to a domain name on the .lu zone is stored in memory. It varies from one DNS provider to another and is explicitly defined according to a set default value - often 1hr, 6hrs, 12hrs, 24hrs, or even 48hrs - and which may, depending on the specific case, be changed.

Label

Blank field or @ for records applying to the domain name as such, or the part that precedes the domain name (e.g. www)

Algorithm
Select the appropriate value from the list displayed

Algorithm is required

Footprint type

Footprint type is required

Fingerprint
Value as a base-16, noted in the form of a series of pairs comprised of numbers from 0 to 9 or letters from a to f, in uppercase or lowercase

Fingerprint is required

TLSA (*Transport Layer Security (TLS) Protocol*)

Time to Live (TTL)

43200 sec.

The timeframe during which data related to a domain name on the .lu zone is stored in memory. It varies from one DNS provider to another and is explicitly defined according to a set default value - often 1hr, 6hrs, 12hrs, 24hrs, or even 48hrs - and which may, depending on the specific case, be changed.

Label

Blank field or @ for records applying to the domain name as such, or the part that precedes the domain name (e.g. www)

Certificate use
Select the appropriate format from the list displayed

CA certificate

Selector
Select the appropriate format from the list displayed

Selector is required

Match type
Select the appropriate format from the list displayed

Match type is required

Certificate
Value as a base-16, noted in the form of a series of pairs comprised of numbers from 0 to 9 or letters from a to f, in uppercase or lowercase

Certificate is required

TXT

Time to Live (TTL)

43200 sec.

The timeframe during which data related to a domain name on the .lu zone is stored in memory. It varies from one DNS provider to another and is explicitly defined according to a set default value - often 1hr, 6hrs, 12hrs, 24hrs, or even 48hrs - and which may, depending on the specific case, be changed.

Label

Blank field or @ for records applying to the domain name as such, or the part that precedes the domain name (e.g. www)

Free text
Text without any accents or special characters, and without any limitation of length

Free text is required

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4.2.3.Explanation of data fields

The items to incorporate in each DNS record follows a special syntax that must be observed, failing which you run the risk of encountering a 'Please follow the required format' error message and red marking of the field concerned:

- **IP addresses**:
  - IPv4: 4 numbers between 0 to 255, bounds included, separated by dots and not containing any unnecessary 0s (e.g. 158.64.1.23)
  - IPv6: short or long notation, but no mixed notation 'IPv4-IPv6' for IPv6-mapped-IPv4 (e.g. 2001:a18:1::23).
- **Algorithm**: select the appropriate value from the list displayed
- **Certificate**: value follows the selector's choice, displayed in hexadecimal format
- **Certificate use**: select the appropriate format from the list displayed
- **Digest**: hash value, presented in hexadecimal format2
- **Digest type**: select the appropriate format from the list displayed
- **Flags**:
  - under the CAA type, select the appropriate format from the list displayed
  - under the DNSKEY type, select the appropriate format from the list displayed
  - under the NAPTR type, incorporate one or more of the following data items: 's', 'a', 'u','p'
- **Time to Live (TTL):** numerical value (expressed in seconds) between 300 and 31536000 (inclusive)
- **Fingerprint**: hexadecimal representation2 of the SSH key fingerprint
- **Fingerprint type**: select the appropriate format from the list displayed
- **Free text**: text without any accents or special characters, and without any limitation of length
- **Keytag**: numerical value between 0 and 65535
- **Label**: blank field or @ for records applying to the domain name as such, or the part that precedes the domain name (e.g. www)
- **Match type**: select the appropriate format from the list displayed
- **Order**: numerical value between 0 and 65535
- **Port**: numerical value between 0 and 65535
- **Preference**: numerical value between 0 and 65535
- **Priority**: numerical value between 0 and 65535
- **Protocol**: select the appropriate format from the list displayed
- **Public key**: hexadecimal value2 containing numbers between 0 and 9 and letters from A to F
- **Regular expression**: text without any accents or special characters, and without any limitation of length as defined in the usage details for NAPTR record RFCs
- **Replacement value**: full name of the existing DNS, written in lowercase, to which a full stop is added (e.g. server.of.my.provider.tld.)
- **Selector**: select the appropriate format from the list displayed
- **Service**: according to NAPTR record RFC reference documents
- **SPF constraints**: According to SPF standard, defined in the technical reference document RFC 7208 2 Hexadecimal = value as a base-16, noted in the form of a series of pairs comprised of numbers from 0 to 9 or letters from a to f, in uppercase or lowercase 15
- **Tag**: select the appropriate format from the list displayed

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- **Target**: full name of the existing DNS written in lowercase, to which a full stop is added at the end (e.g. server.of.my.provider.tld.). For IDN targets, enter the ASCII/ACE representation. Warning: the target cannot be identical to the domain name. In the event it falls under the domain name, a DNS record related to the target must have been created beforehand.
- **Token** : A sequence of 8 to 255 ASCII characters (the most commonly used ASCII characters are unaccented letters from A to Z, digits from 0 to 9, and punctuation marks such as periods, commas, parentheses, and arithmetic operators).
- **Value**: CAA value provided by your certification authority
- **Weight**: numerical value between 0 and 65535

4.3. Automated modification of records (optional)

The automated modification of records is beneficial for DNS records that require regular updates to their values. Otherwise, manually configuring DNS queries is more than sufficient.

If you choose to use automated updates, they must be configured individually for each record to which you wish to apply them. Depending on your needs, you can therefore automate updates for all or some of your DNS records independently, without affecting the configuration of other DNS records.

4.3.1. Functionning

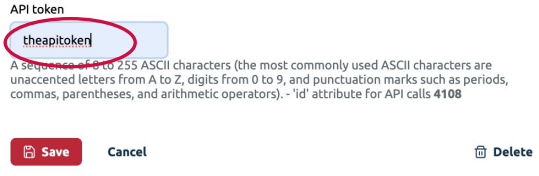
Editable DNS records can, if you want, be automatically updated without you needing to log in to the my.lu/online platform. An Application Programming Interface (API) indeed interacts with the my.lu/online platform via three types of 'HTTP' requests.

- 'GET' request to view the current value of the DNS record.
- 'POST' request to change the value of the DNS record.
- 'DELETE' request to delete/disable the value of the DNS record.

To be able to make these 'HTTP' requests, you must have two key components in place and configured beforehand:

1. a server, a software, an automation system, or any other technical component allowing you to make API calls;
2. a command-line tool – such as cURL (URL client) – to transfer the record values between the my.lu/online platform and the technical component you have chosen for making API calls.

Each record that you want to automate must be clearly identifiable when sending 'HTTP' requests. To do this, follow these steps:

a.	Define a token (c.f. section 4.2.3. Explanation of data fields' for further information on the technical specifications) and integrate this token into the system you have set up to make API calls to the platform.	
b.	Within the platform, edit the record affected by the automation (c.f. section '4.2.1. Steps to follow to edit DNS records'), then enter your token in the 'API token' field. Once your change has been saved, a blue key will appear in your list of DNS records, next to the details of the record affected by the automation. **Important** : The blue key does not mean that the automation is working correctly. If you encounter any issues, please check that your token is properly integrated correctly and, if necessary, correct any errors, either in the platform or in your system making the API calls.	

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4.3.2.API call references

The API set up by the Restena Foundation on the my.lu/online platform meets the following technical requirements :

- Basic address: https://my.lu/online/v1/
- Two types of authentication available:
  - Basic authentication: the authentication is based on the combination of a user name and a password with the record ID being the user name and the token being the password as defined in the technical reference document RFC 7617.
  - 'Bearer' authentication : the authentication is based on a bearer corresponding to the token. The HTTP header is as follows: 'Authorization: Bearer {token}'

Note : Whichever type of authentication you choose for your API calls, remember to specify the expected response format in the 'HTTP Accept' header, namely: 'application/json'.

→ You are viewing the current value of the record

To view the current value of the record, send a GET request to the address: 'records/{id}'.

Examples of API calls using the cURL command-line tool:

→ Basic authentication option:

```
curl -u {id}:{token} -H 'Accept: application/json' \
  https://my.lu/online/v1/records/{id}
```

→ 'Bearer' authentication option :

```
curl -H 'Authorization: Bearer {token}' -H 'Accept: application/json' \
  https://my.lu/online/v1/records/{id}
```

Once the GET request has been sent, the response received in JSON format displays the DNS record details, and an HTTP 200 status code.

The response received from the API provides information on several entries, which vary in particular in the fields marked 'FIELD' depending on the type of record viewed:

- RRTYPE = type of record viewed,
- LABEL = record name,
- TTL = Time to Live.

Example of a response received from the API:

```
{
  "id":{id},
  "type":"{RRTYPE}",
  "ttl":{TTL},
  "label":"{LABEL}",
  "fields":[
    {"name":"{FIELD_NAME}", "value":"{FIELD_VALUE}" }
    ...
  ],
  "system":false
}
```


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→ You are changing the value of a record

For certain simple record types, modification via a GET request is possible to ensure compatibility with the DynDNS function of routers, NAS (Network Attached Storage) devices and similar equipments.

The relevant record types are: A and AAAA (Ipv4 and Ipv6 addresses).

The call takes the following form *records/dyndns/{id}/{address}* and replace the IP address in the record with *{address}.*

Example of DynDNS API call using the cURL command-line tool – Basic authentication option:

```
curl -u '{id}:{token}' https://my.lu/online/v1/records/dyndns/{id}/{new-ip}
```

Generally speaking, modifying all types of records is done using the POST method, that includes the record details in JSON format; the structure of this data is the same as that used to views a record's value (see the section 'You are viewing the current value of a record').

Example of DynDNS API call using the cURL command-line tool – 'Bearer' authentication option:

```
curl -H 'Authorization: Bearer{token}' -H 'Accept : application/json' \
  -d {json-structure} https://my.lu/online/v1/records/{id}
```

The attributes to be provided are:

- « id », an attribute with an unchanged value;
- « type », an attribute with an unchanged value;
- « ttl », an attribute whose value can be adjusted ;
- « fields », an attribute for which the values of the various fields can be changed.

Once the POST request has been sent, the response, returned in JSON format, informs you whether your request was successful or not.

- If your change is accepted, the new value is returned, along with an HTTP status code of 200, as when viewing the record's value.
- If an error is detected during your update (for example, incorrect data entered in one of the required attributes), this will be indicated to you, along with an HTTP status code other than 200.

→ You are deleting/hiding the value of a record

With a DELETE request, it is possible to unpublish a record and delete its value. The same record can then be restored by editing it.

Example of API call using the cURL command-line tool – 'Bearer' authentication option:

```
curl -H 'Authorization: Bearer {token}' -X DELETE \
  https://my.lu/online/v1/records/{id}
```

Once the DELETE request has been sent, you will receive one of the following two HTTP status codes:

- 204: the record is unpublished and its value cleared,
- 409: the request is rejected; the record is referenced by another record.

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4.3.3. Details by record type of data fields displayed by the API

To find out what the data fields displayed by the API mean, please refer to the detailed explanation of the listed data fields in section 4.2.3, 'Explanation of data fields'.

A

```
"fields": [
  { "name": "addr", "value": "127.0.0.1" }
],
```

IP address (IPv4)

AAAA

```
"fields": [
  { "name": "addr", "value": "$ipv6" }
],
```

IP address (IPv6)

CAA

```
"fields": [
  { "name": "flags", "value": "0" },
  { "name": "caa_tag", "value": "issue" },
  { "name": "caa_value", "value": ";" }
],
```

Flags

Tag

Value

CNAME

```
"fields": [
  {
    "name": "target",
    "value": "eofnnfifojfsif."
  }
],
```

Target

DNSKEY

```
"fields": [
  { "name": "flags", "value": "256" },
  { "name": "proto", "value": "3" },
  { "name": "algo", "value": "8" },
  { "name": "publickey", "value": "dddddddd" }
],
```

Flags

Protocol

Algorithm

Public key

DS

```
"fields": [
  { "name": "keytag", "value": "1" },
  { "name": "algo", "value": "8" },
  { "name": "digesttype", "value": "2" },
  { "name": "digest", "value": "aeaeaeaeaeaeaeaeae" }
],
```

Tag

Algorithm

Digest type

Digest

MX

```
"fields": [
  { "name": "prio", "value": "0" },
  { "name": "target", "value": "zfrfrsg." }
],
```

Priority

Target

NAPTR

```
"fields": [
  { "name": "order", "value": "0" },
  { "name": "preference", "value": "0" },
  { "name": "flags", "value": "s" },
  { "name": "service", "value": "r" },
  { "name": "regexp", "value": "test" },
  { "name": "replacement", "value": "dfdsfdsfdqfqd" }
],
```

Order

Preference

Flags

Service

Regular expression

Replacement value

NS

```
"fields": [
  { "name": "target", "value": "dfgdfgfdgfdgf." }
]
```

Target

SPF

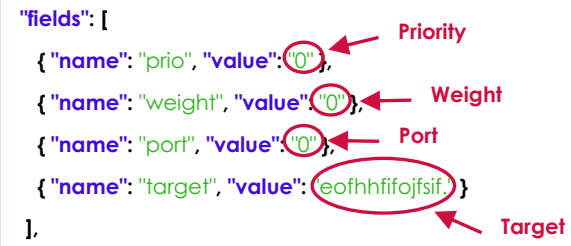
```
"fields": [
  { "name": "spf", "value": "v=spf1 ~all" }
],
```

SPF constraints

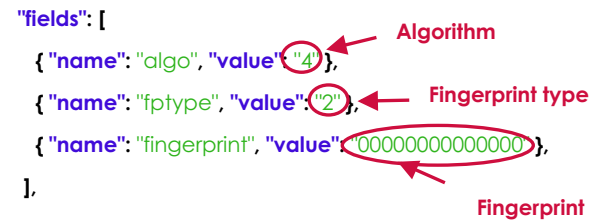
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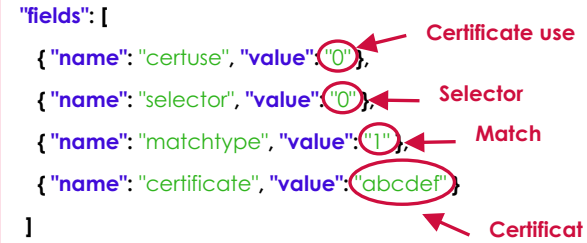
SRV



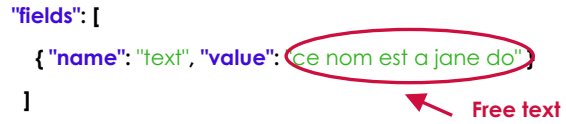
SSHFP



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TXT



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