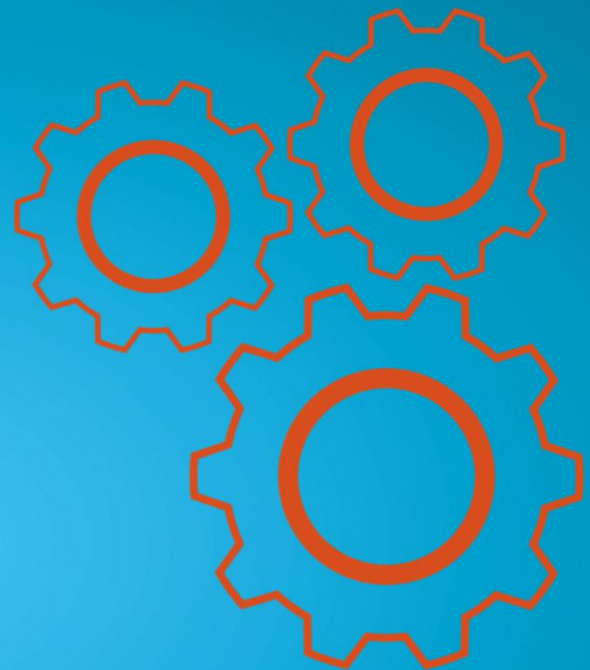


TECHNICAL ONBOARDING for RDE v3.5 – March 2026



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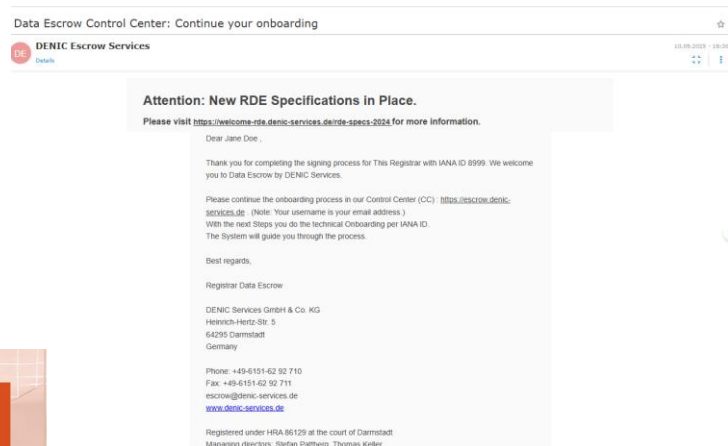
Overview

This manual describes the onboarding process to our system through our **Control Center (CC)**. This is the second part, Technical Onboarding.

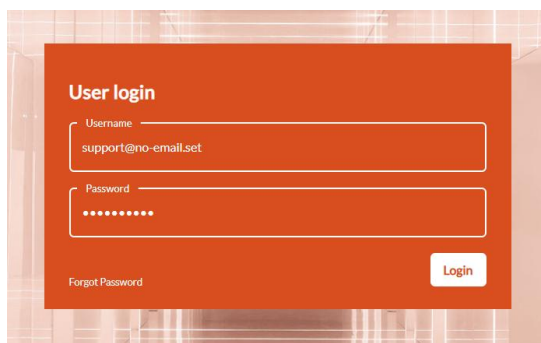
During the onboarding process, you will always have the menu on the left side with the next steps. A completed step has a checkmark. All steps must be completed.

1. Continue Email

After contracting is finished, your Control Center Administrator (CC Admin) will receive a Continue Email with a link to our CC.



2. Control Center



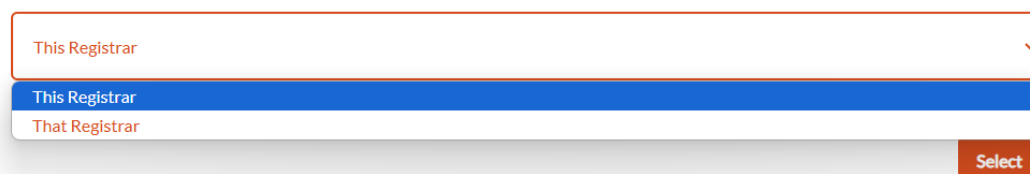
Log in with your Username (email address) and Password. After login, the Technical Onboarding starts.

2.1 Dropdown

A dropdown occurs if you have access to more than one account. Choose the one you want to onboard. If no dropdown occurs, please go directly to the [next section below](#).

Select your Account

Please select your account ...



3. Technical Onboarding

You may continue the onboarding by selecting the steps on the left. General Information is already completed during the first part, contracting.

General Information☒

PGP Key☐

SSH Keys☐

Deposit Upload☐

General Information

Welcome to Data Escrow by DENIC Services.

Thank you for submitting all general information. This step is completed.
You may now continue completing the steps on the left menu.

3.1 PGP Key

PGP keys are necessary for uploading a valid deposit.

Start Onboarding☒

PGP Key☒

SSH Keys☐

Deposit Upload☐

PGP Key

DENIC Services PGP Keys can be found [HERE](#)

Please provide us your public PGP key. The key needs to be valid. Your PGP key is necessary for uploading a deposit successfully.

PGP Key

Check

3.1.1 Deposit Encryption

You need to [download](#) our public PGP key for the Data Escrow Deposit Encryption RDE Production Environment. If you have a Registrar Back-end Provider (RBEP), you need to provide them this key.

Fingerprint: AFE6 84FE 3AC4 2297 3658 BF09 EE54 8AD1 DADB 1003

The [2025 ICANN RDE Spec](#) defined the OpenPGP standard in [RFC9580](#). The migration to this standard must be completed by 9 January 2027 at the latest. We will publish a corresponding public PGP key on time.

3.1.2 Deposit Signing

You need to provide your public PGP key for deposit signing. If you have an RBEP, you need to ask them for assistance. The key needs to be valid.

For creating a PGP key, we recommend using GnuPG:¹

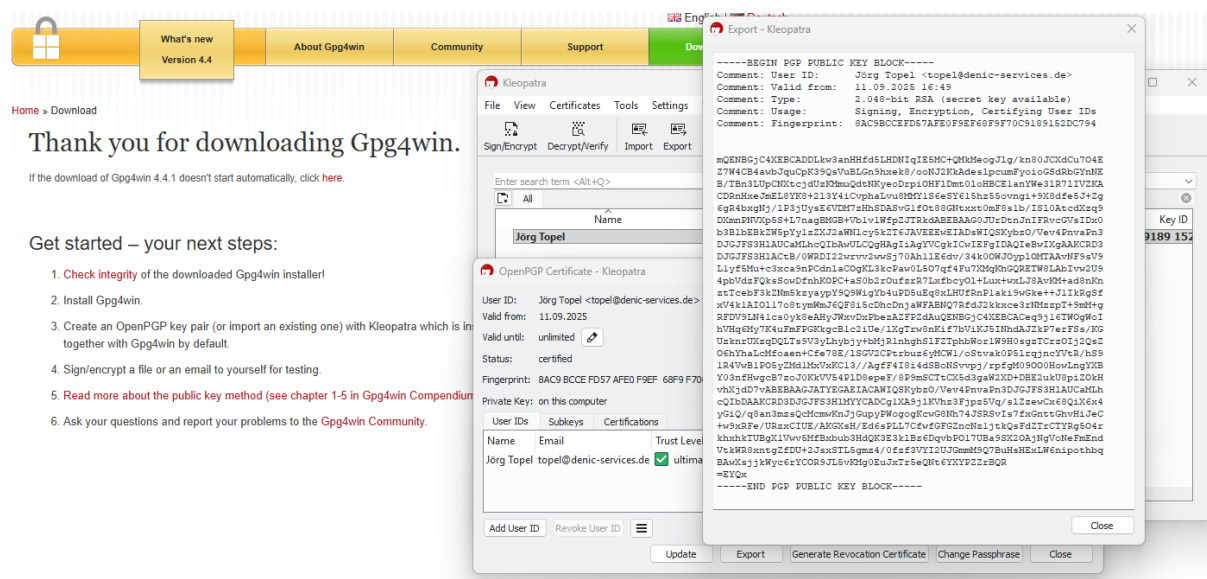
- gnupg.org (Linux)
- www.gpg4win.org (Windows)
- gpgtools.org (Darwin)

Requirements:

- Validation period of at least five (5) years²
- Key size of at least 2048 Bits

Supported Algorithms:¹

RIPEMD160withRSA	SHA256withECDSA	SHA512withECDSA
RIPEMD160withECDSA	SHA384withDSA	SHA256withRSA
RIPEMD256withRSA	SHA384withECDSA	SHA384withRSA
SHA256withDSA	SHA512withDSA	SHA512withRSA



¹ As written in [section 3.1.1](#), the [2025 ICANN RDE Spec](#) defined the OpenPGP standard in [RFC9580](#). The migration to this standard must be completed by 9 January 2027 at the latest.

DENIC Services does not support the Ed448 algorithm. Therefore, we kindly ask registrars to create a PGP key using the Ed25519 algorithm.

However, our CC does still not support keys generated with the `--profile rfc9580` due to our current OpenPGP implementation and to prevent invalid deposits. However, generating the key with the `--profile rfc4880` will create a valid key.

² You need a PGP key with a validation period of MORE than five years, because our CC will verify your key.

Start Onboarding	☒
PGP Key	☐
SSH Keys	☐
Deposit Upload	☐

[Back](#)

Save

Start Onboarding	☒
PGP Key	☒
SSH Keys	☐
Deposit Upload	☐

Check

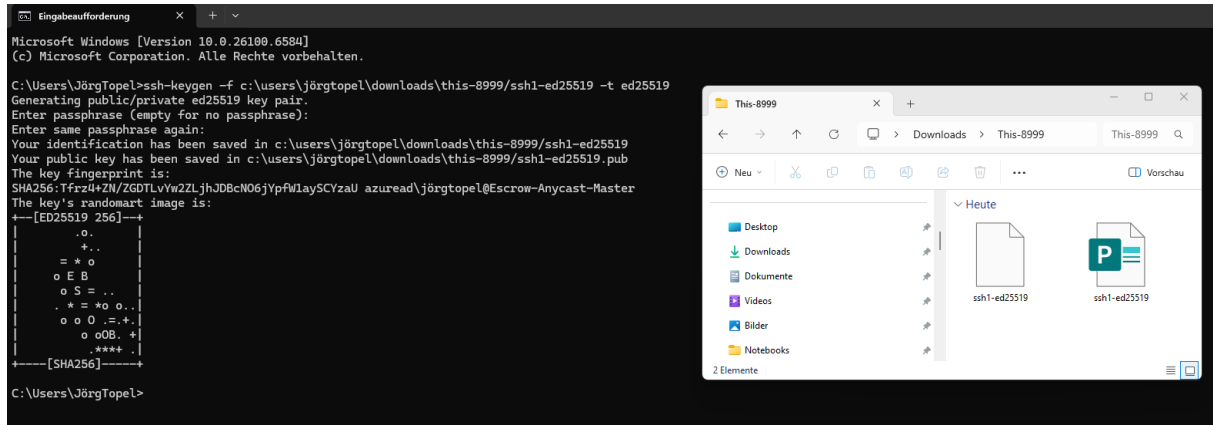
General Information	☒
PGP Key	☒
SSH Keys	☐
Deposit Upload	☐

denic-services.de | Page 6 of 27

You can use [ssh-keygen](#) at the command line to create the SSH key.

Example:

```
ssh-keygen -f ~\downloads\this-8999\ssh1-ed25519 -t ed25519
```



To add the key, click on the plus (+) icon.

Start Onboarding ☒

PGP Key ☒

SSH Keys ☐

Deposit Upload ☐

SSH Key

Please provide us your public SSH key(s). The key(s) need(s) to be valid. We support more than one key if you work with different keys on different servers.

+

ID	SSH Key	Edit
No key added		

Start Onboarding ☒

PGP Key ☒

SSH Keys ☐

Deposit Upload ☐

SSH Key

SSH Key

Save

You need to copy/paste your public PGP key and click on Save.

Start Onboarding ☒

PGP Key ☒

SSH Keys ☐

Deposit Upload ☐

SSH Key

SSH Key

ssh-ed25519 AAAAC3NzaC1lZDI1NTE5AAAAIH2YDjgnJ+SUYjcNU6lalagZqQhFYx4G5XTCJLKIQNJ azuread\jörgtopel@Escrow-Anycast-Master

Save

To add another key, click on the plus (+) icon again. To edit or delete your stored key(s), click on the wrench (🔧) icon.

Start Onboarding ☒

PGP Key ☒

SSH Keys ☒

Deposit Upload ☐

SSH Key

Please provide us your public SSH key(s). The key(s) need(s) to be valid. We support more than one key if you work with different keys on different servers.

+

ID	SSH Key	Edit
1	ssh-ed25519 AAAAC3NzaC1lZDI1NTE5AAAAIH2YDJgnJ+SUYjcNU6lalagZqQhFYx4G5XTCJLKIQNj azuread\jörgtopel@E...	🔧

If you click on the wrench, you can now edit the key. Even if you do not edit the key, you need to click on Save to close this step. To delete the key, click on delete.

Start Onboarding ☒

PGP Key ☒

SSH Keys ☒

Deposit Upload ☐

SSH Key

SSH Key

ssh-ed25519 AAAAC3NzaC1lZDI1NTE5AAAAIH2YDJgnJ+SUYjcNU6lalagZqQhFYx4G5XTCJLKIQNj azuread\jörgtopel@Escrow-Anycast-Master

Delete

Save

3.3 Deposit Upload

Here you can download this manual.

Start Onboarding ☒

PGP Key ☒

SSH Keys ☒

Deposit Upload ☐

Deposit Upload & SFTP Credentials

You may use any SFTP application to upload.

Please use your username and SSH Key to log in to SFTP Server.

Please choose the place where Data Escrow Deposits should be stored

Please choose

European Union (escrow.denic-services.de)

SFTP FQDN

Username

RDE-8999

☐ Manual has been read

Download Manual

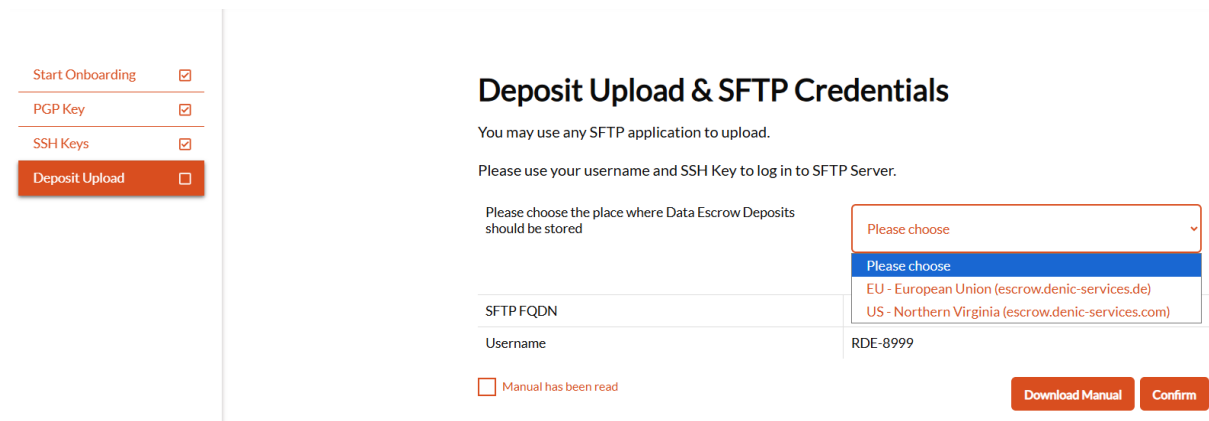
Confirm

3.3.1 Choice Of Storage Location

You need to choose the location where your deposits should be stored:

- EU – European Union (in Frankfurt/Main and Amsterdam)
- US – United States (in Virginia)

Depending on your choice, the SFTP FQDN differs. Just select from the drop-down and click on Confirm. Only then the CC will show you the correct SFTP FQDN.

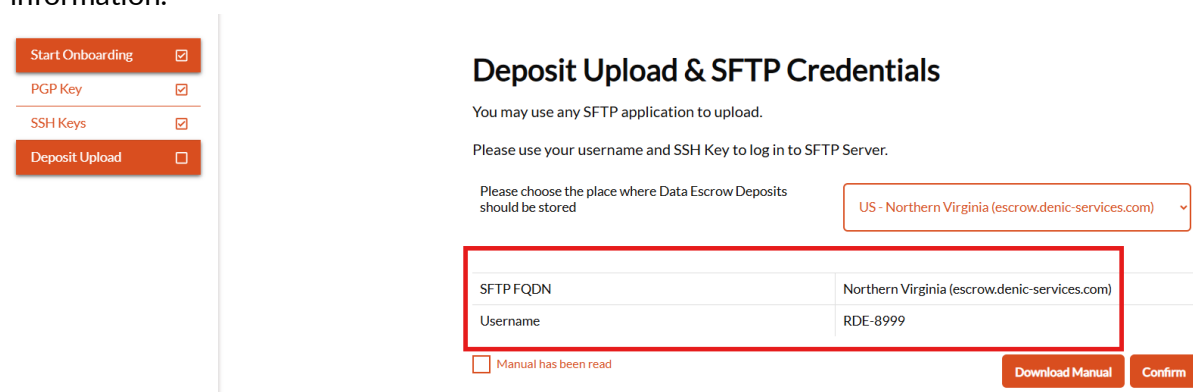


3.3.2 SFTP Credentials

In this section, you will find your **SFTP credentials**:

Protocol	SFTP	
Port	22	
FQDN/Host	escrow.denic-services.de	Use for storage in EU.
	escrow.denic-services.com	Use for storage in USA.
Username	RDE-<IANA ID> ³	
Password	~path/to/your/private.sshkey (or password)	
Note	These are only example credentials. You can find your credentials later in the CC as soon as you complete the Technical Onboarding part.	

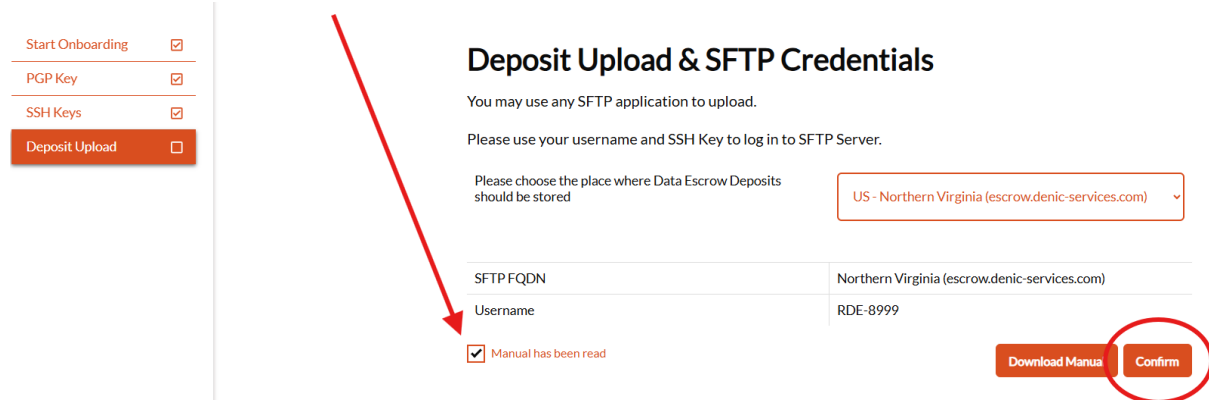
If you have a Registrar Back-end Provider (RBEP), you need to provide them with this information.



³ Replace IANA with your IANA ID, e.g., RDE-9999

3.3.3 Manual Download

As soon as you flag the box and click on Confirm, you will complete the Technical Onboarding. **This step is necessary to view your progress in the following steps!**



Start Onboarding ☒
PGP Key ☒
SSH Keys ☒
Deposit Upload ☐

Deposit Upload & SFTP Credentials

You may use any SFTP application to upload.

Please use your username and SSH Key to log in to SFTP Server.

Please choose the place where Data Escrow Deposits should be stored

US - Northern Virginia (escrow.denic-services.com) ▼

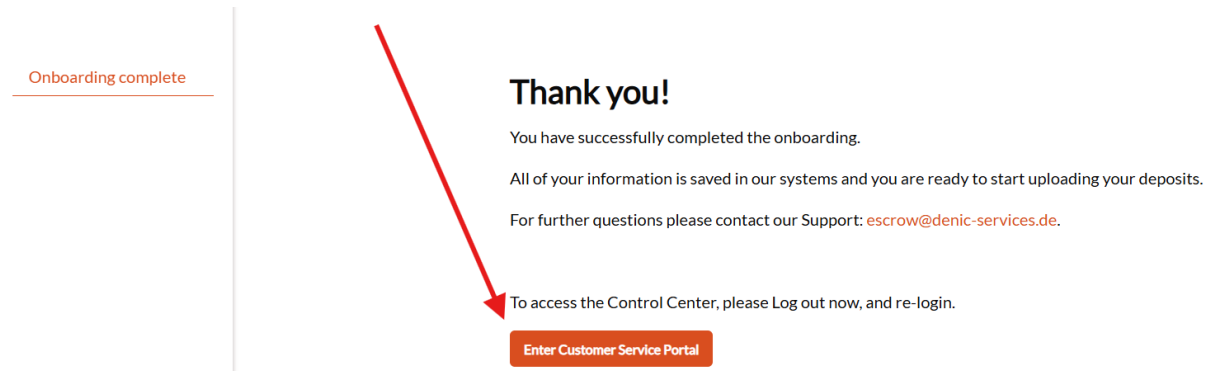
SFTP FQDN	Northern Virginia (escrow.denic-services.com)
Username	RDE-8999

☒ Manual has been read

Download Manual
Confirm

4. Technical Onboarding completed

You need to click on the button to reload the CC.



Onboarding complete

Thank you!

You have successfully completed the onboarding.

All of your information is saved in our systems and you are ready to start uploading your deposits.

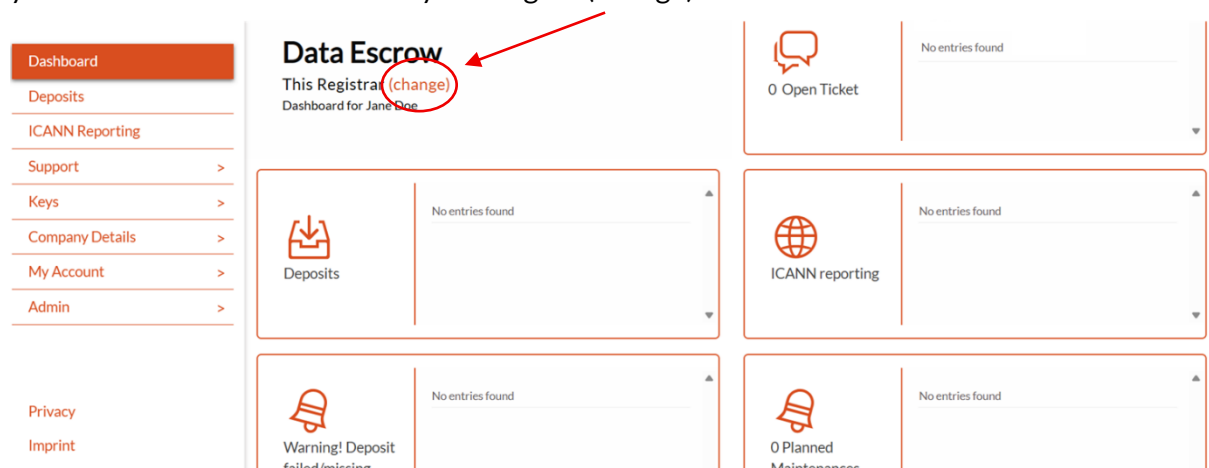
For further questions please contact our Support: escrow@denic-services.de.

To access the Control Center, please Log out now, and re-login.

Enter Customer Service Portal

5. Control Center Dashboard

You are now in the dashboard for daily operations. If you manage more than one registrar, you can switch between them by clicking on (change).



Dashboard
Deposits
ICANN Reporting
Support >
Keys >
Company Details >
My Account >
Admin >

Privacy
Imprint

Data Escrow

This Registrar (change)
Dashboard for Jane Doe

0 Open Ticket

No entries found

Deposits

No entries found

ICANN reporting

No entries found

Warning! Deposit failed/missing

No entries found

0 Planned Maintenances

No entries found

5.1 Manual Download II

Click on Support > How To for downloading the CC Manual.

[Dashboard](#)
[Deposits](#)
[ICANN Reporting](#)
[Support](#) >
[Keys](#) >
[Company Details](#) >
[My Account](#) >
[Admin](#) >

[Tickets](#)
[Open Ticket](#)
[Maintenance](#)
[How To](#)
[Contact](#)

How To Manuals

This manuals cover all topics of our Data Escrow Service and our Control Center (CC)

CC Manual: [Open PDF](#)

Contractual Onboarding Manual: [Open Contractual Onboarding](#)

Technical Onboarding Manual: [Open Technical Onboarding](#)

HowTo RDE Specification 2025: [HowTo V2.0](#)



5.2 Admin section

If you want to add more users, go to Admin > User Management and click on the plus (+) icon. To edit or delete users, click on the wrench (🔧) icon.

[Dashboard](#)
[Deposits](#)
[ICANN Reporting](#)
[Support](#) >
[Keys](#) >
[Company Details](#) >
[My Account](#) >
[Admin](#) >

[User Management](#)
[Permissions](#)

User Management

Contact for Support: escrow@denic-services.de

As an Admin you may add or delete users.

Name	Email	Mobile Phone	Edit
Jane Doe	joerg.topel@web.de	+491777044486	

If you click on the plus, you can now add another user. Click on Save to add.

User Management

Contact for Support: escrow@denic-services.de

As an Admin you may add or delete users.



First Name

NOC

Last Name

Team

Email

noc@denic-services.de

Mobile Phone

+491601234567

Cancel

Save

This is for 2FA.
Please always use the
international w/o additional
characters:
+19786543210

If you click on the wrench, you can now ~~edit~~ or delete the user.⁴ To delete the user, click on delete. You need at least one (administrator) user.

User Management

Contact for Support: escrow@denic-services.de

As an Admin you may add or delete users.

First Name

NOC

Last Name

Team

Email

noc@denic-services.de

Mobile Phone

+491601234567

Cancel

Delete

⁴ Currently, it is not possible to edit users.

If you want to add or remove permissions to users, go to Admin > Permissions.

Dashboard
Deposits
ICANN Reporting
Support >
Keys >
Company Details >
My Account >
Admin >

User Management
Permissions

User administration

Contact for Support: escrow@denic-services.de

Below you can adjust all access permissions for the users of your company.

Username	Admin	Deposits	ICANN-Reporting	Keys	Company-Details
Jane Doe	☒				
NOC Team	☐				
Technical User	☐				

You can click in the specific field or make them an administrator (admin) by flagging the box. If you want to remove permissions, unflag the box or click into the specific field you want to edit. You need at least one admin.

User administration

Contact for Support: escrow@denic-services.de

Below you can adjust all access permissions for the users of your company.

Username	Admin	Deposits	ICANN-Reporting	Keys	Company-Details
Jane Doe	☒				
NOC Team	☐	read x	read x	read x	
Technical User	☐	edit x	edit x	read x	none read edit

5.3 Deposit Preparation



Please prepare your deposit files according to the [2025 ICANN RDE Spec](#).
If you have an RBEP, you should forward this information to them.

5.3.1 Deposit W/O Handle References

Deposit, without handles, `full.csv` or `diff.csv`.

The `full.csv` or `diff.csv` file must contain the number of the domain records. To comply with the format, the header row should appear as follows:

```
domain,expiration_date,iana,rt-name,rt-address,rt-state,rt-zip,rt-city,rt-
country,rt-email,rt-phone
```

This example may be split according to the conventions of multi-file deposits (see [section 5.3.4](#)).

```
domain,expiration_date,iana,rt-name,rt-address,rt-state,rt-zip,rt-city,rt-
country,rt-email,rt-phone
foobar0.test,2026-06-30 23:59:59,0000,Foo Bar,Barstreet
42,98765,Bigcity,Virginia,United States,barkeeper@foobar0.test,+1-555-555-555
foobar1.test,2026-06-30T23:59:59Z,0000,Foo Bar,Barstreet
42,98765,Bigcity,Virginia,United States,barkeeper@foobar1.test,+1-555-555-555
foobar2.test,2026-06-30 23:59:59,0000,Foo Bar,Harbourstreet
3,,Hongkong,,Hongkong,barkeeper@foobar2.test,+1-555-555-555
foobar3.test,2026-06-30 23:59:59,0000,Foo Bar,Another Street
24,98765,Bigcity,Virginia,United States,barkeeper@foobar3.test,+1-555-555-555
```

To comply with section 4.1.5 and to support the delivery of beneficial user information in case of privacy or proxy services, we suggest the usage of the following additional fields

```
prt-name,prt-address,prt-state,prt-zip,prt-city,prt-country,prt-email,prt-phone
```

which can be added at the end of the mandatory escrow records.

5.3.2 Deposit W/ Handle References

Deposit, with handles, `full.csv` or `diff.csv`.

The `full.csv` or `diff.csv` file must contain the number of the domain records. To comply with the format specified for the use of handles, the header row should appear as follows:

```
domain,expiration_date,iana,rt-handle
```

This example may be split according to the conventions of multi-file deposits (see [section 5.3.4](#)).

```
domain,expiration_date,iana,rt-handle
foobar0.test,2026-06-30 23:59:59,0000,foo-123
foobar1.test,2026-06-30T23:59:59Z,0000,foo-123
foobar2.test,2026-06-30 23:59:59,0000,foo-12345
foobar3.test,2026-06-30 23:59:59,0000,foo-123
```

The handle file `hd1.csv` file must contain the complete contact information for each handle ID used for the domains in the `full.csv` or `diff.csv` file. The header row must appear as follows:

```
handle,name,address,state,zip,city,country,email,phone
```

Example:

```
handle,name,address,state,zip,city,country,email,phone
foo-123,Foo Bar,Barstreet 42,98765,Bigcity,Virginia,United
States,barkeeper@foobar0.test,+1-555-555-555
foo-12345,Foo Bar,Harbourstreet 3,,Hongkong,,Hongkong,barkeeper@foobar2.test,+1-
555-555-555
```

In case you have more than one handle contact in the same role (rt, ac, tc, or bc), two different syntaxes are supported:

- a) Include all handles concatenated with spaces under the regular field name, e.g.:

```
[...],rt-handle,[...]
```

```
[...],handle1 handle2,[...]
```
- b) Use separate field names for each handle contact with the syntax `roleprefix-N-fieldname`, e.g.:

```
[...],rt1-handle,rt2-handle,[...]
```

To comply with section 4.1.5 and to support the delivery of beneficial user information in case of privacy or proxy services, we suggest the usage of the following additional fields

```
prt_handle
```

which can be added at the end of the mandatory escrow records. The referenced handles must obviously appear in the handle file.

5.3.3 Header Mapping W/O Handle References

The registrar's Header Mapping is the headline from your deposit file in a vertical view.

Example:

```
spec/rdp/raa,fieldname
8.1.1, domain
8.1.3, iana
8.1.2, expiration-date
, nameserver
8.1.4, rt-name
[ ... ]
8.1.10, rt-phone
8.1.11, rt-email
[ ... ]
```

5.3.4 Header Mapping W/ Handle References

The registrar's Header Mapping is the headline from your deposit file in a vertical view.

Example:

```
spec/rdp/raa,fieldname
8.1.1, domain
8.1.3, iana
8.1.2, expiration-date
, nameserver
8.1.4, rt-handle:name
[ ... ]
8.1.10, rt-handle:phone
8.1.11, rt-handle:email
[ ... ]
```

5.3.5 Providing Header Mapping

The registrar needs to provide the Header Mapping through our **Control Center** in the **My Account > ICANN Header Mapping** section. You can use copy & paste or insert manually.

denic services
DATA ESCROW

Logout

the 2007 RDE Specifications. [HowTo_new_Registrar_Data_Escrow_Specifications-2025-V2.0.pdf](#)

Please bear in mind:
You need to send your Header Mapping File to ICANN.
Please send the Header Mapping File to registrar@icann.org

Please only insert your Header Mapping, if you have already changed your Data Escrow Deposit to RDE Specifications of 2025.
As long as you did **NOT** provide a Header Mapping, we accept Data Escrow Deposit in Format of 2007 Specs until August 20. 2025.

ICANN Header Mapping

```
spec/rdp/raa,fieldname
8.1.1, domain
8.1.3, iana
8.1.2, expiration-date
, nameserver
8.1.4, rt-name
[ ... ]
8.1.10, rt-phone
8.1.11, rt-email
[ ... ]
```

Delete Save

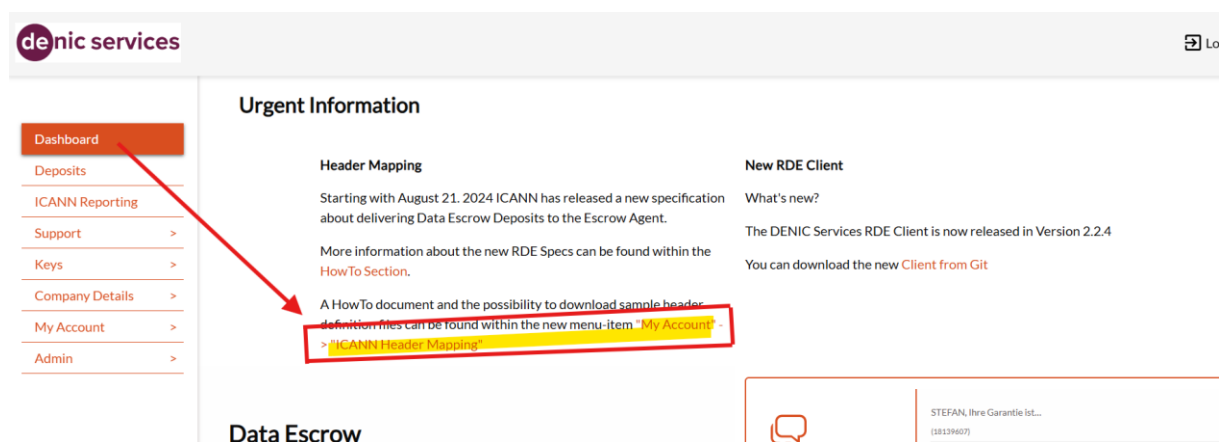
In addition, you need to send your Header Mapping to registrar@icann.org.



If you are administering an **Eligible Group**, you only need to provide it for our group account. Our system will spread it over the registrar accounts under it.

No ICANN Header Mapping visible in the menu?

Go to *Dashboard* and click on the link behind the text "My Account" -> "ICANN Header Mapping". Then, the button will appear.



5.3.6 Further Instructions

In the examples above, a proper abbreviation has been used as stated in Section 4.1.14: *"Unambiguous abbreviations may be used. Field names referring to the registrant shall be prefixed with the string 'rt-' (e.g., 'rt-fax') and field names referring to the technical contact shall be prefixed with the string 'tc-' (as in 'tc- country')."*

We offer an SFTP application, which takes care of the following tasks, see [section 5.3.5](#).

Please see section 4.1.18: Your deposit must be accompanied by a hash file. The hash file must contain the hash sum of the domain files before the files have been compressed, signed, and encrypted. As stated in the specifications: *"Each line shall consist of the hash value for one file, followed by whitespace(s), followed by the name of the file."*

Please note that SHA-256 hash sums are required. Example of hash.txt data format:

```
c58fcf{...hashcontent...}3d2e5c4ba74 $account_iana_id_c_RDE_$account_date_modified_full_1.csv
c58fcf5{...hashcontent...}2e5c4ba74 $account_iana_id_c_RDE_$account_date_modified_hdl_1.csv
```

All file names must appear in the format specified in section 4.1.21:

[IANA ID]_RDE_[YYYY-MM-DD]_[full/diff/hdl/hash]_[#]

According to the specifications, your files must be named as follows:

```
$account_iana_id_c_RDE_$account_date_modified_full_1.csv
$account_iana_id_c_RDE_$account_date_modified_hdl_1.csv
$account_iana_id_c_RDE_$account_date_modified_hash.txt
```

After you have created your files, the full/diff/hdl files must be compressed first with gzip compression:

```
Output= $account_iana_id_c_RDE_$account_date_modified_full_1.csv.gz
Output=$account_iana_id_c_RDE_$account_date_modified_hdl_1.csv.gz
```

After the files have been compressed, you must sign and encrypt the compressed files. Please sign first with your private key and then encrypt with DENIC Services' public key (see [section 3.1.1](#); [download](#)). Signature and encryption should be done in the same pass.

```
Output= $account_iana_id_c_RDE_$account_date_modified_full_1.csv.gz.gpg
Output= $account_iana_id_c_RDE_$account_date_modified_hdl_1.csv.gz.gpg
```

Managing more than one registrar?

If you are administering more than one registrar, please make sure to use the private PGP key for signing, whose public part is stored in the Control Center for this specific IANA ID!

5.3.7 Splitted Deposit Files

Source files with more than one (1) million rows or one gigabyte (1 GB) of size need to be splitted into a sequence of files. The consecutive sequence numbers start with 1 and are contained in the filename by the following convention:

```
<IANAID>_RDE_<YYYY>--<MM>--<DD>_full_#.csv (or) <IANAID>_RDE_<YYYY>--<MM>--<DD>_diff_#.csv
<IANAID>_RDE_<YYYY>--<MM>--<DD>_hdl_#.csv
```

The symbol # is replaced by the corresponding sequence numbers. Only the first file should contain row headers; all other files just start with the successive content lines.

5.3.8 Deposit Upload

You must upload all files to your SFTP account. For uploading, you may use any SFTP application via terminal or client, such as [escrow-rde-client](#) (see [below](#)) or [FileZilla](#) (see [section 5.3.6](#))

Please note that the session-close-event is used as a trigger to determine the completeness of the deposit, so make sure to upload all files through the same SFTP connection/session.

```
$account_iana_id_c_RDE_$account_date_modified_full_1.csv.gz.gpg
$account_iana_id_c_RDE_$account_date_modified_hdl_1.csv.gz.gpg
$account_iana_id_c_RDE_$account_date_modified_hash.txt
```

Please use the provided credentials, see [section 3.3.2](#).

5.3.9 escrow-rde-client

This client takes care of the following tasks:

- Creates a hash file over the content of the delivery
- Compress, sign, and encrypt the deposit files
- Uploads the deposit to the SFTP

Important things to remember:

- Using the correct credentials and FQDN/Host
- Using the correct PGP keys
 - Using our public PGP key for encryption
 - Using your private PGP key for signing
- Using the correct SSH key

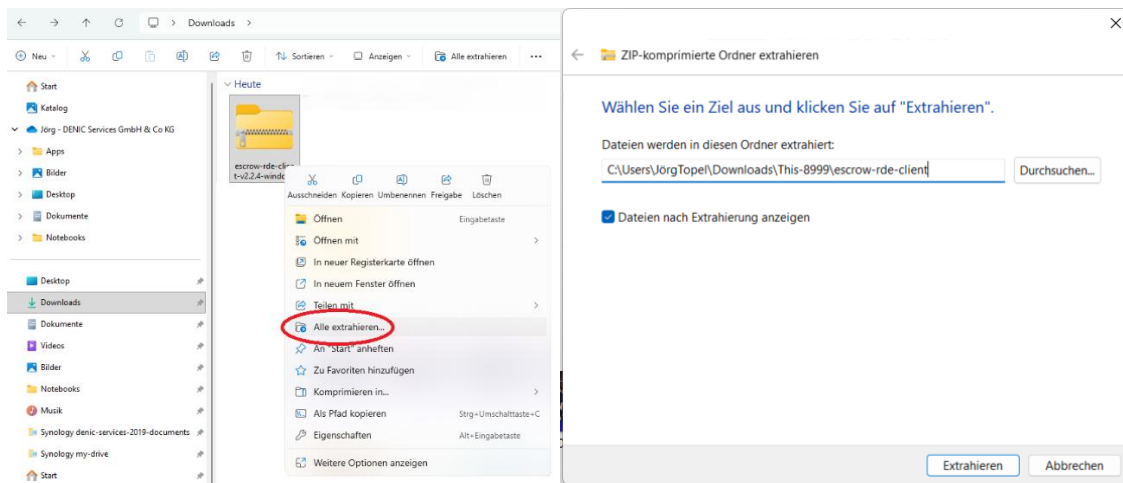
Prerequisites

Your Data Escrow Agent (DEA) must have set up your public PGP key and your public SSH key along with your account.

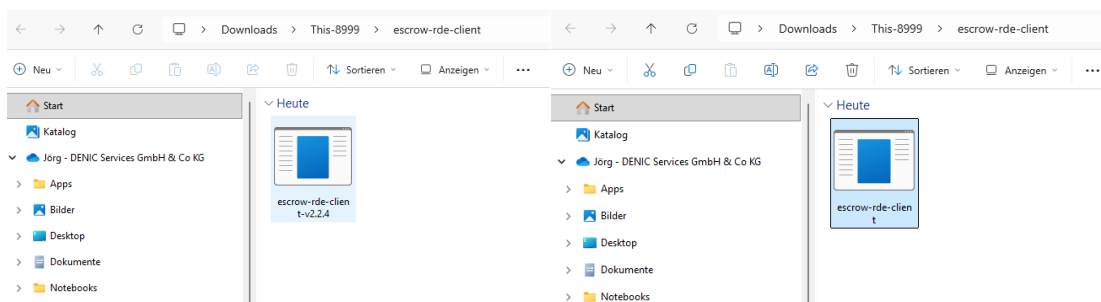
The escrow-rde-client will need access to the following files:

- Your private (encrypted) PGP key to sign the deposit files
- Your private SSH key for authentication at the SFTP service
- The public PGP key of the DEA to encrypt the deposit files, see [section 3.1.1](#); [download](#).

[Download the client](#) package for your platform (Linux/Windows/Darwin) and extract it to a desired folder. This page also shows the client's manual.



Rename the client to escrow-rde-client (optional).



Prepare The Configuration File

Generate a configuration file with:

```
./escrow-rde-client -i
```

```

Eingabeaufforderung
Microsoft Windows [Version 10.0.26100.6584]
(c) Microsoft Corporation. Alle Rechte vorbehalten.

C:\Users\JörgTope>cd downloads

C:\Users\JörgTope\Downloads>cd this-8999

C:\Users\JörgTope\Downloads\This-8999>cd escrow-rde-client

C:\Users\JörgTope\Downloads\This-8999\escrow-rde-client>dir
Datenträger in Laufwerk C: ist Windows-SSD
Volumeseriennummer: 3610-9322

Verzeichnis von C:\Users\JörgTope\Downloads\This-8999\escrow-rde-client

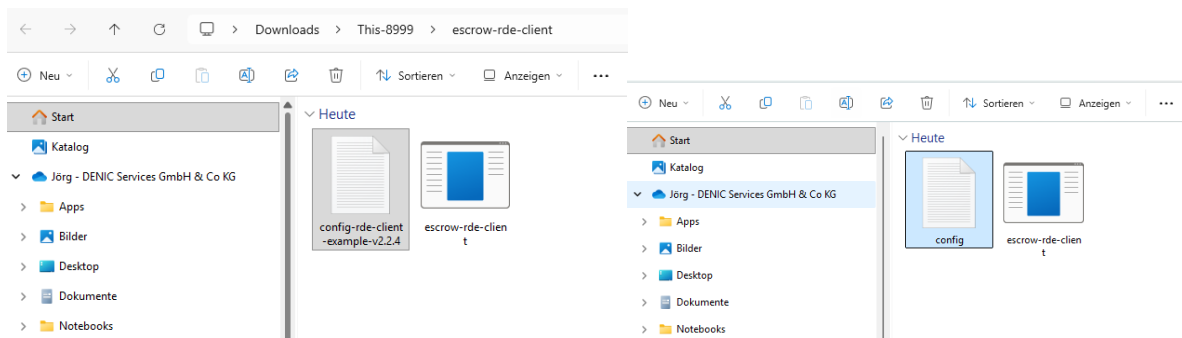
16.09.2025  16:28  <DIR>          .
16.09.2025  16:25  <DIR>          ..
16.09.2025  16:25                5.866.496 escrow-rde-client.exe
               1 Datei(en),          5.866.496 Bytes
               2 Verzeichnis(se), 355.406.303.232 Bytes frei

C:\Users\JörgTope\Downloads\This-8999\escrow-rde-client>escrow-rde-client -i
Example config written to config-rde-client-example-v2.2.4.yaml

C:\Users\JörgTope\Downloads\This-8999\escrow-rde-client>

```

Rename the generated configuration file to config (optional).



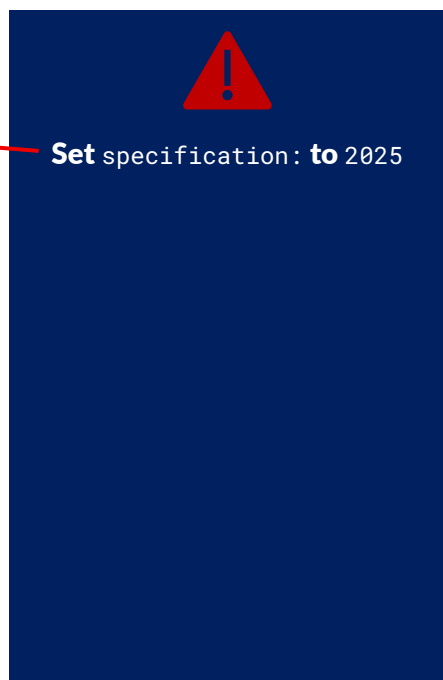
Open your configuration file.⁵

```
config.yaml — C:\Users\JörgTope\Downloads\This-8999\escrow-rde-client — Atom
File Edit View Selection Find Packages Help

config.yaml
1 # Your IANA id.
2 ianaID: 9999
3
4 # specification - the specification version of the deposit, 2007, 2024 or 2025
5 specification: 2007
6
7 # depositBaseDir - the directory where the depositfiles can be found
8 depositBaseDir: examples/deposits/rde
9
10 # runDir - the directory where the processed files will be located
11 runDir: processed/
12
13 # compressAndEncrypt - if set to true, a hashfile of the depositfiles
14 # will be created and the files will be compressed and encrypted.
15 # set this to false if you just want to do validation of your files.
16 compressAndEncrypt: true
17
18 # uploadFiles - if set to true, the processed files will
19 # be uploaded to the escrow agent
20 uploadFiles: true
21
22 # multi - if set to true, all deposit files (except hash) are assumed
23 # to be part of a sequence of files. You need to add a sequence number
24 # at the end of the filename like "foobar_full_1.csv", "foobar_full_2.csv", ...
25 # Deposit files without a sequence number will not be processed when multi
26 # is active. Only the first file of the sequence should contain the header definitions.
27 multi: false
28
29 # useFileSystemCache - if set to true, the application will store all
30 # temporary data on the disk and delete it on completion. Activate this
31 # option if you run low on memory during execution.
32 useFileSystemCache: false
```

Edit the parameters.

```
1 # Your IANA id.
2 ianaID: 8999
3
4 # specification - the specification version of the deposit, 2007, 2024 or 2025
5 specification: 2025
6
7 # depositBaseDir - the directory where the depositfiles can be found
8 depositBaseDir: deposit/
9
10 # runDir - the directory where the processed files will be located
11 runDir: processed/
12
13 # compressAndEncrypt - if set to true, a hashfile of the depositfiles
14 # will be created and the files will be compressed and encrypted.
15 # set this to false if you just want to do validation of your files.
16 compressAndEncrypt: true
17
18 # uploadFiles - if set to true, the processed files will
19 # be uploaded to the escrow agent
20 uploadFiles: true
21
22 # multi - if set to true, all deposit files (except hash) are assumed
23 # to be part of a sequence of files. You need to add a sequence number
24 # at the end of the filename like "foobar_full_1.csv", "foobar_full_2.csv", ...
25 # Deposit files without a sequence number will not be processed when multi
26 # is active. Only the first file of the sequence should contain the header definitions.
27 multi: false
28
29 # useFileSystemCache - if set to true, the application will store all
30 # temporary data on the disk and delete it on completion. Activate this
31 # option if you run low on memory during execution.
32 useFileSystemCache: false
```



⁵ We are working on an improved configuration file.

```

33
34 # gpg configuration parameters
35 gpg:
36 # gpgPrivateKeyPath - path to your private key which is used
37 # to sign the deposit files
38 gpgPrivateKeyPath: 0x50BE10D0-sec
39
40 # gpgPrivateKeyPass - password to decrypt your private key
41 gpgPrivateKeyPass: 12345
42
43 # gpgReceiverPubKeyPath - path to the public key of the escrow agent
44 # which is used to encrypt the deposit
45 gpgReceiverPubKeyPath: Escrow_RDE_Deposit-Encryption_Production_Environment
46

```

```

47 # sftp configuration parameters
48 sftp:
49 # sshHostname - the hostname to upload the deposit to
50 sshHostname: escrow.denic-services.com
51
52 # sshPort - the port to connect to
53 sshPort: 22
54
55 # sshUsername - the username for authenticating at the remote end
56 sshUsername: RDE-8999
57
58 # sshPrivateKeyPath - the path to your private ssh key used for connecting
59 sshPrivateKeyPath: ssh1-ed25519
60
61 # sshPrivateKeyPassword - the password to decrypt your private ssh key
62 # comment line if key has no password
63 sshPrivateKeyPassword: 12345
64
65 # sshHostPublicKeyPath - the path to the hostkey of the escrow agents endpoint
66 # comment line if you want to accept any presented host key
67 # sshHostPublicKeyPath: examples/keys/denic.hostkey
68

```




Set sshHostbane: to
 escrow.denic-services.<tld>

(See [section 3.2.2](#)
 for your FQDN/Host.)

If you want to print the output to a file, add the following line to your configuration file:

logFile: /path/to/your/log/file

```

69 logFile: log/escrow.log
70

```



Prepare Your Deposit

The handle file (.hdl) is only necessary if you are using handles, see [section 5.3](#).

To upload a deposit for the **current day**, the source filenames (.csv) can have any filename as long as the name includes full, diff and hdl (denoting full deposit, differential deposit and handle):

```

full.csv (or) diff.csv
hdl.csv

```

To upload a deposit for **any past day**, the filenames must follow this convention:

```

<IANAID>_RDE_<YYYY>-<MM>-<DD>_full.csv (or) <IANAID>_RDE_<YYYY>-<MM>-<DD>_diff.csv
<IANAID>_RDE_<YYYY>-<MM>-<DD>_hdl.csv

```

Replace <IANAID> with your IANA ID, <YYYY> with the year, <MM> with the month, and <DD> with the day.

Splitted Deposit Files

See [section 5.3.4](#). To enable splitted deposits, you need to update your configuration file:

```
multi: true
```

Run The Client

```
./escrow-rde-client -c config.yaml
```

You can additionally use the `-s` flag to only print the last validation error message. To print validation output directly to a file, add the following configuration line to your configuration file:

```
logFile: /path/to/your/log/file
```

Troubleshooting

This section discusses some known problems and possible solutions.

- Crashes due to out-of-memory errors

Out-of-memory errors can cause the application to crash without further error messages. If you run low on memory during computation, consider activating the file system cache in the configuration file:

```
useFileSystemCache: true
```

This will drastically reduce the amount of memory required, but also increase computation time.

You can report problems with this tool via e-mail to escrow@denic-services.de.

Example Data

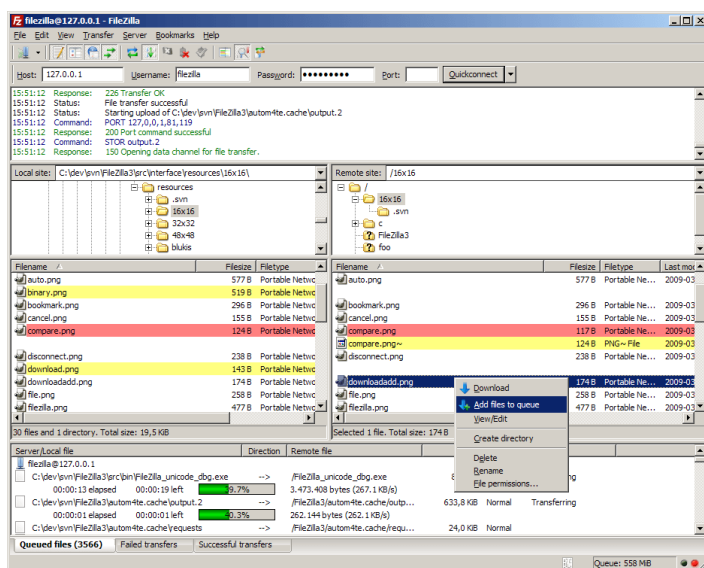
Single-file full deposit, with handle references, `full.csv`. These examples may be splitted according the conventions of multi-file deposits (see above – Splitted Deposit Files).

```
domain,iana,nameserver,expiration_date,rt-handle,prt-handle
foobar0.test,0000,"ns1.dns.test,ns2.dns.test",2031-05-30 12:30:45,foo-123,
foobar1.test,0000,"ns1.dns.test,ns2.dns.test",2031-08-30T12:30:45Z,foo-123,
foobar2.test,0000,"ns1.dns.test,ns2.dns.test",2031-05-30T12:30:45Z,foo-1234,foo-1235
foobar3.test,0000,"ns1.dns.test,ns2.dns.test",2031-05-30 12:30:45,foo-1236,
foobar4.test,0000,"ns1.dns.test,ns2.dns.test",2031-05-30 12:30:45,foo-1234,foo-1235
```

Handles used in the example data above, hd1.csv:

```
handle,name,organisation,address,state,zip,city,country,email,phone
foo-123,Foo Bar,,At Home 123,Foostate,12345,Foocity,Fooland,foo@bar.test,+555.123-345-123
foo-1234,PP Service Provider,, "Escape " "Quote" " Street
42",Barstate,54321,Barcity,Barland,bob@bar.test,+555.123-345-345
foo-1235,Alice Bob,,742 Evergreen
Terrace,Foostate,12345,Foocity,Fooland,alice@bar.test,+555.123-345-678
foo-1236,Domain Admin,Bar Company Limited,1 Evergreen Terrace,,No-ZIP-City,No-State-
Land,bar-company@bar.test,+555.123-345-678
```

5.3.10 FileZilla



Download: <https://filezilla-project.org>

The number of simultaneous connections must be set to 1! How to set it in FileZilla:
"Transfer Settings" → "Limit number of simultaneous connections" and set to "1".

6. Deposit Upload II

Information about the SFTP credentials is in [section 3.3.2](#).

In case we receive your deposit **AND** can process it, we will respond with a Deposit Notification via email to your notify email address.

The subject line of those emails has always had the format below. For a valid deposit:

```
[RDE][<IANA>][<YYYY>-<MM>-<DD> <hh>:<mm>:<ss>] Deposit Report - success
```

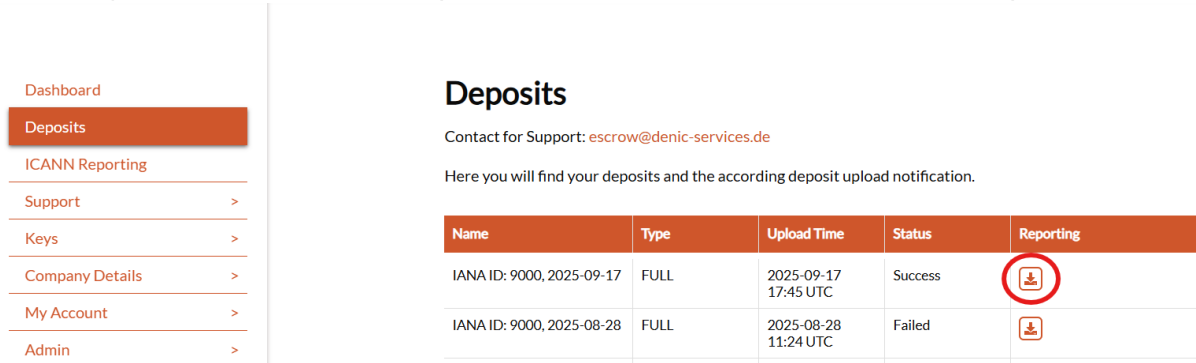
For an invalid deposit:

```
[RDE][<IANA>][<YYYY>-<MM>-<DD> <hh>:<mm>:<ss>] Deposit Report - failed
```

<IANA> will be replaced with your IANA ID. <YYYY>, <MM>, <DD>, <hh>, <mm>, and <ss> with year, month, day, hour, minute, and second. This timestamp shows when we processed your deposit. The time indication is in UTC.

The email contains information about the uploaded deposit and, if invalid, it shows the error codes, how often they occur, and the specific messages. Multiple error messages of the same error will be skipped.

Further, you can download the Deposit Notifications in our Control Center, Deposits section.



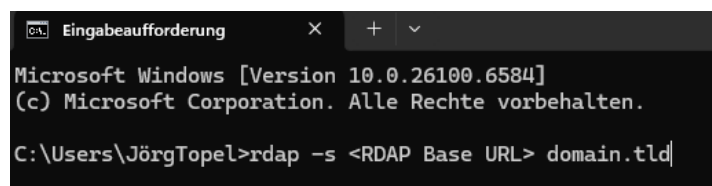
Name	Type	Upload Time	Status	Reporting
IANA ID: 9000, 2025-09-17	FULL	2025-09-17 17:45 UTC	Success	
IANA ID: 9000, 2025-08-28	FULL	2025-08-28 11:24 UTC	Failed	

6.1 Audit

As soon as you upload a valid deposit, including at least one domain, an audit will be performed.

During the audit, we will compare the content of 20 randomly selected domains with the content from your RDAP server. (If your deposit contains fewer than 20 domains, all domains will be selected.) To query your RDAP server, your [RDAP Base URL](#) will be used.

The audit follows an ICANN-approved RDDS lookup method. Web-based requests are not possible. Query limitations may let the audit fail.



```

C:\Users\JörgTopel>rdap -s <RDAP Base URL> domain.tld
  
```

The content between your deposit and your RDAP server must match! However, personal data on the RDAP server may be redacted due to privacy concerns.

DENIC Services will inform the registrar about the audit result and, if the result is failed, which errors occurred. In such a case, you are obligated to request that we perform the audit a second time. If the audit failed a second time, DENIC Services will escalate to ICANN to provide you with the necessary support.

Your audit result must be success to comply.

6.2 Reporting

As soon as your audit is successful, the reporting towards ICANN will start with your next expected deposit.

In the ICANN Reporting section of the Control Center, you can check the reporting. The Status Success means that we have successfully reported your deposit. The Status Failed means that ICANN refused our report. In such a case, we will try to report again.

[Dashboard](#)
[Deposits](#)
[ICANN Reporting](#)
[Support >](#)
[Keys >](#)
[Company Details >](#)
[My Account >](#)
[Admin >](#)

ICANN Reporting

Contact for Support: escrow@denic-services.de

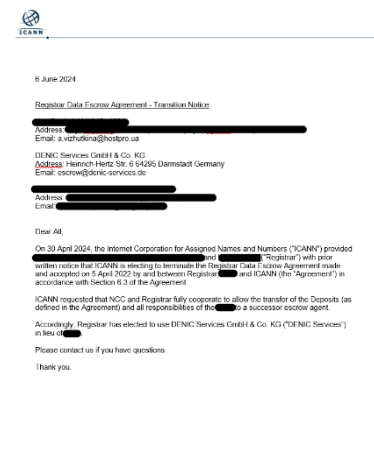
Here you can find your ICANN verification reports for your uploaded deposits.

Name	Sent Date	Sent Time	Status
IANA ID [REDACTED] FULL deposit, 2025-09-25	2025-09-25	03:10 UTC	Success
IANA ID [REDACTED] FULL deposit, 2025-09-18	2025-09-18	03:10 UTC	Success
IANA ID [REDACTED] FULL deposit, 2025-09-11	2025-09-11	03:10 UTC	Success

7. Transition Notice

This part does not apply to new accredited registrars. However, if you are switching from another Data Escrow Agent (DEA) to us, ICANN will send a Transition Notice via email.

With the Transition Notice, the switch is completed, and you can stop uploading deposits to your old DEA.



8. Onboarding Completed

Congratulations and welcome on board! If not done yet, please download and read our Control Center manual as described in [section 5.1](#).

I - Contact and Support

	DENIC Services GmbH & Co. KG Data Escrow Support Heinrich-Hertz-Str. 5 64295 Darmstadt Germany
	Phone +49-6151-62 92 710
	Fax +49-6151-62 92 711
	Email escrow@denic-services.de
	Control Center escrow.denic-services.de
	Internet www.denic-services.de
	Business hours Monday to Friday: 8:00 - 18:00 Time zone: UTC+1 (CET) / Summertime: UTC+2 (CEST) Except public holidays in the State of Hesse, and on 24 + 31 December.

II - Change History

Version	Date	Author	The change	Release
		DENIC	Publish: Further Instructions	DENIC
2	8 Nov. 2019	Fabio Trotta	Revision	
2.6		Fabio Trotta		Stefan Pattberg
1	23 Apr. 2021	Fabio Trotta	Creation: How-To	Dilek Imseytöglu
1.0.1 beta	7 May 2021	Fabio Trotta		
1.0.1	7 May 2021	Fabio Trotta		Dilek Imseytöglu
3	21 Aug. 2023	Ralf Schneider, Jörg Topel	Revision	Ralf Schneider
3.0.1	11 Oct. 2023	Jörg Topel	Correction: PGP key validation period	Ralf Schneider
3.1.0	15 Nov. 2023	Ralf Schneider	Added information on SSH key usage and requirements	Ralf Schneider
3.1.1	24 Nov. 2023	Ralf Schneider	Added description on file format	Ralf Schneider
3.2.0	5 Dec. 2023	Ralf Schneider	Clarification: Hash sum	Ralf Schneider
3.2.1	12 Jan. 2024	Ralf Schneider, Claudia Klukas	Clarification: RDAP Recommendation: Full file w/ handle	Ralf Schneider
3.5	10 Sep. 2025	Jörg Topel	Update: How-To	
3.5.1	18 Mar. 2026	Jörg Topel	Added Header Mapping description	